EARLY INTRODUCTION OF INTEGRATED RURAL HEALTH INTO A PRIMITIVE SOCIETY

V. F. P. M. VAN AMELSVOORT

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EARLY INTRODUCTION OF INTEGRATED RURAL HEALTH INTO A PRIMITIVE SOCIETY

A New Guinea case study in medical anthropology

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad van doctor in de geneeskunde aan de Universiteit van Amsterdam,
op gezag van de Rector Magnificus Dr. J. Kok,
Hoogleraar in de faculteit der wiskunde en natuurwetenschappen,
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door

VINCENTIUS FRANCISCUS PETRUS MARIA
VAN AMELSVOORT

geboren te 's-Hertogenbosch

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THIS DISSERTATION HAS BEEN PREPARED AT THE INSTITUTE FOR TROPICAL HYGIENE AND GEOGRAPHICAL MEDICINE;
DEPARTMENT OF THE ROYAL TROPICAL INSTITUTE, AMSTERDAM, NETHERLANDS.
DIRECTOR PROF. DR. H. A. P. C. OOMEN. FORMER DIRECTOR PROF. DR. J. W. WOLFF.

PROMOTOR: PROF. DR. J. W. WOLFF

This study is based on the author's personal observations and experiences during his three years service as a district health officer in the Asmat region of the former Netherlands New Guinea.
His observations and conclusions do not necessarily represent the official policy or pronouncements of the Department of Public Health at the time of his service, and are entirely the author's own responsibility.
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The book itself is unsponsored.

"Acceptability of a method is just as important as its efficacy and this is more true of western medicine".

D. N. MAJUMDAR
"Races and Cultures of India". 1958

DEDICATED TO:
all friends of the Asmat
all friends in the Asmat

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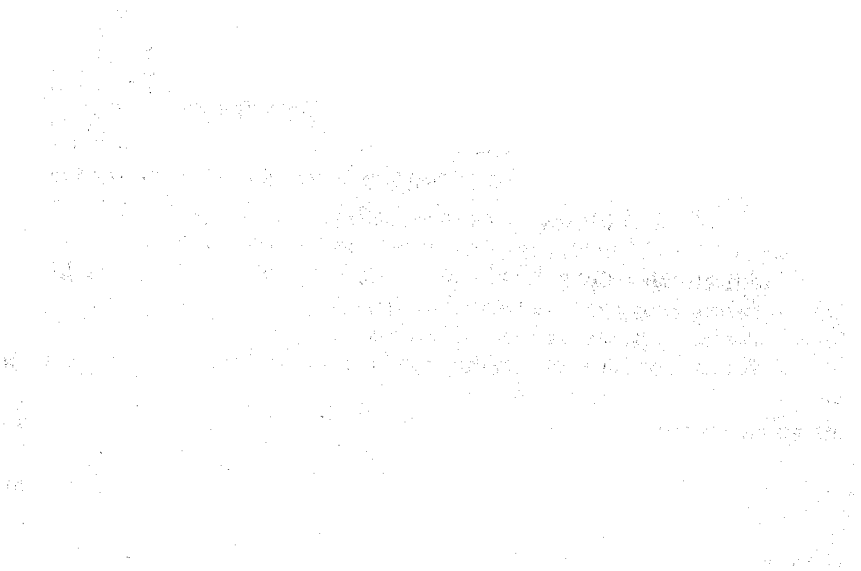
contents



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niet op prijs gesteld zou zijn bij de voorbereiding van deze studie, maar omdat de medewerking van vele zijden zo spontaan en overrompelend was, dat een volledige vermelding de vraag zou kunnen doen rijzen, waaruit het aandeel van de auteur zelf in deze publicatie nu nog wel zou kunnen bestaan.
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Tot slot was het de Asmat bevolking zelf waarvoor al het werk gebeurde, en die daarom ook centraal staat in deze studie. Als representanten van de vele vrienden daar, waar ik de drie mooiste jaren van mijn leven tot nu toe mocht werken, mag ik noemen de dorpshoofden uit enkele dorpen: Warsekomen en Simme uit Sjuru, Ewok en Betan uit Ajam, Sian en Wapok uit Jamas-Jeni, Manakapir uit Erma, Enakap uit Amborip, Bey uit Atsj, Betakam uit Basim en Bes uit Samun, alsmede mijn "vader" en "moeder": Ewenakat en Bitsjowok uit Sjuru en de pleegkinderen Augustina Kokor en Mattheus Desemanam uit Sjuru.

introduction

General motives

This study is based on three propositions:

1. The anthropological aspect of medical work, especially in D-countries (see: technical remarks), is of great importance. Health programmes based on sound medical-technical considerations, have sometimes encountered unexpected difficulties or even resulted in unexpected failure because no account has been taken of values related to the culture of the people assisted. During the last fifteen years cultural factors in health activities have attracted the attention of anthropologists and members of the medical profession. Medical assistance programmes were analysed in an attempt to ascertain the reasons that might account for the lack of success of health work.

From the co-operation between social scientists and health workers in these field-studies a new inter-discipline between medicine and cultural anthropology evolved: i.e. medical anthropology.
This study will review the literature of this new discipline, medical anthropology.

2. In recent decades the introduction or expansion of western medicine in D-countries has meant the introduction or expansion of integrated rural health. The meaning of this is twofold: A health programme must be based on a sound balance between curative and preventive care, health education and environmental sanitation. Secondly, such a project can be successful only if expansion in every aspect of health care mentioned above by western medical methods will keep

pace with administrative, political, economical and educational development. Progress in all these fields is all the time engaging the attention of D-countries in particular. Therefore it is almost impossible in D-countries to describe and evaluate one individual medical project without considering the whole health programme and without taking into account the overall trends of the entire development.
In this context this study will therefore present an analysis of a health programme. The conception of an integrated rural health will not be considered in itself in this study. (135).

3. Many studies on health projects do not present relevant or complete information. The majority of descriptions do not indicate the main reasons for the selection of the type of medical activities contemplated, nor do they explain why particular methods have been chosen to implement these activities. Many studies list only the efforts made and the methods used. In our opinion a misconception often arises because an enumeration of medical activities alone is regarded as an evaluation of the result of medical care. When the results of work in the medical field are reported, they are quite frequently not considered in relation to the motives underlying the work and the efforts made to accomplish it. Very rarely do health reports contain accounts of unfavourable results or even mistakes made. Only exceptionally, when there is an unexpected bad outcome or failure, is the health programme then subjected to a critical analysis.

In our view the above mentioned shortcomings militate against a sound evaluation of the project described.
It would appear to be rather invidious to quote literature in evidence of the above proposition.
In our case study we will pay attention to the motives which guided and changed the policy of the health project. As far as results can be given, we will emphasize failures or mistakes. In our opinion facts considered in this manner may perhaps give rise to ideas which may be applied elsewhere.

The case study

Medical anthropology has mostly analysed two types of health programmes in D-countries:

a. specialised projects, limited to one disease, such as a malaria eradication campaign, or a programme limited to one aspect of health work, as, for example, mother and child care.
In such rather simple situations few cultural factors are likely to hamper the medical project alone. As the setting for case studies such as these is very specific, the conclusions of these studies cannot be often applied to cases in other circumstances.

b. Health projects of a wide scope in rather more developed countries. The complex situation in these cases makes it difficult to trace or disentangle the factors which influence medical activity.

In contrast to a and b, our case study in the Asmat region in West-New-Guinea (formerly Netherlands New Guinea, now Indonesian Irian Barat) offers two unique features:

1. Until 1953 the inhabitants of the Asmat region had not had any lasting or firm contact with the outside world, so that in the 20th century these people were still living in the stone age civilization. They are probably one of the most "primitive" societies in the world to-day.
The disadvantages of a complex situation present in more developed countries (mentioned under b.) did not apply in the case of the Asmat people, for reasons that will be discussed in chapter v.

2. Almost from the very first moment when definite contact was established, the health department began its medical work. From the very beginning the plan was envisaged in the form of an integrated rural health project as indicated in our second proposition.
Therefore all aspects of a health programme could be studied and the inconvenience mentioned under a could be overcome.

The local circumstances were almost ideal and served as a basic "laboratory" experiment in introducing an integrated rural health service. It should be noted however that the health work undertaken in the Asmat was not meant to be a pilot project,

nor was it carried out for any demonstrative purpose. The medical work in the Asmat was under the direction of the Director of the Department of Public Health, and was in accordance with the general policy of his department. Taking into consideration the special circumstances of this extraordinary Asmat region however, the local DHO (see technical remarks) could always discuss the directives and could make his own suggestions. The health work carried out during the last three years of the period described was in part motivated and executed by the author and partially reflects the author's initiative relative to the circumstances prevailing in the local situation. This study is therefore presented by the author in a dual capacity. In his capacity as a DHO the author carried out his duties and participated in the exercise in the same way as many other officers quoted in this study. His considerations and motives are described in chapter four and date from the commencement of his active service. They are quoted objectively from his reports.
Secondly the author has written this study in his private capacity, and, as such, he has tried to view the situation from a distance, quite apart from his duties as a DHO. This explains why in evaluating the Asmat programme in chapter five the opinions expressed by the author may obviously differ from his reports in chapter four in his role as DHO.

Presentation

Chapter one combines an introduction to the new discipline, medical anthropology with a review of the literature.

Chapter two depicts the geography and the inhabitants of the Asmat region. It constitutes the setting in which the health work was carried out. As in our opinion the anthropological aspect is important for the evaluation of the health work, a fairly comprehensive description of the ethnology of the Asmat people is submitted. No complete expert description of the ethnology of the Asmat people is as yet available. Our report does not pretend to provide such an expert picture. It provides the data as far as they were known at the time the health work was in progress, and in so far as they influenced the motives underlying the implementation of the health work. Some data are given to enable the medical activities to be evaluated.

Village of Jepem along the Jomat river, 1955.

Photo: C. van Kessel

THE SETTLEMENT OF THE ASMAT PEOPLE

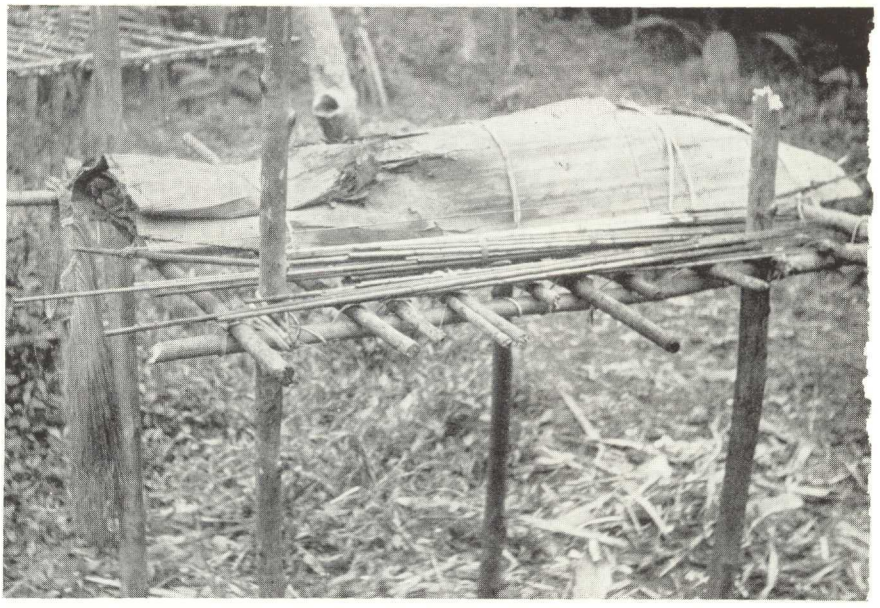
THE MEDICAL TEAM ON PATROL

Yaws campaign in the village of Abtatie, Fajit river, Casuarine coast, October 1960.

Photo: J. Krösschell

Scaffold with female corpse wrapped in sleeping mat. On the left the girdle of the deceased woman. In front bow and arrows from her husband. Village of Otjanep, 1957.

Photo: C. van Kessel

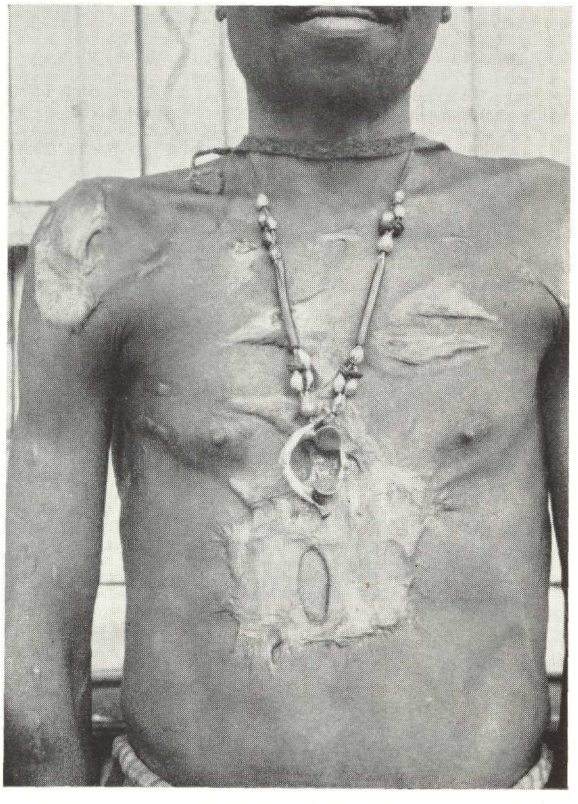


ASMAT CUSTOM FOR BURIAL

ASMAT TREATMENT FOR PAIN

Scars resulting from burning wounds for treating chest pains. Probably a patient with asthma. The human vertebra as a necklace symbolizes the head of a deceased relative or a head-hunted victim. Cookriver 1961.

Photo: the author



Chapter three describes the contact of the outside world with the Asmat region and people. It does not present a complete picture within the historical framework of New Guinea. We endeavour to submit only those facts which illustrate the attempts made to obtain information about the region and to make contacts with its inhabitants. This chapter three concludes with a short summary of the administrative relationships, in so far as they had a direct bearing upon the health work in the Asmat.

Chapter four is the case study of the introduction of an integrated rural health service in the Asmat region.
In accordance with our above-mentioned propositions the health work is projected against the background of the overall development. This method of description is essential for the purpose of this study. A great deal of attention has been paid to the description of the motives and changes in policy. In order to give a clear insight into these motives and changes, the facts are given initially in chronological order. For the last period the description turns into a more diachronical study of some groups of problems within the health field.

Chapter five presents an evaluation of the Asmat project as described in chapter four. Greater emphasis is laid on the difficulties and points of friction encountered in the course of implementing the programme than to smoothly running activities. Moreover we tried to find some yardstick for assessing the peoples' point of view apart from the anthropological and medical-technical considerations.

Chapter six deals with the future. Based on data derived from the literature of medical anthropology and from the experience gained in the Asmat case, some working schemes have been devised which may possibly be useful to professional medical fieldworkers. A list of the pitfalls encountered in former health projects may draw attention to points of friction to be advoided in future programmes. A memorandum may help the field worker to become aware of some problems or even to find the answers to some of them.
For future *theoretical* research into medical anthropology, a completely new method is described together with some suggestions for operational implementation.

Chapter seven gives some final reflections on the fundamentals of medical assistance programmes.

The appendices contain some figures to illustrate chapter four. They are not highly accurate figures arrived at by painstaking laboratory experiments, but they are the only statistics available and were compiled by various authors under very difficult circumstances. As this is the first comprehensive socio-medical study of the Asmat region, a regional Asmat bibliography up to the end of 1962 has been included.

wo (pig)

technical remarks

1. We follow Foster (38) in the use of the term "western medicine" as synonymous with "scientific medicine", in relation to its historical native soil. We realise, however, that the term "scientific medicine" is not a monopoly of a single culture.

2. For the sake of brevity, and without any intercultural qualification, the term "D.country" is used, in the sense of "underdeveloped and developing countries or less developed areas" (Höjer, 49) or "populations sans machinisme" (Lebeuf, 62). Similarly the term "primitive society" is only used in the sense of "society without much spezialisation".

3. For similar reasons we do not distinguish between the abstract conception "rural health" and the actual performance "rural health care". Analogously: "mother and child health" versus "mother and child health care".

4. The health work in the Asmat region, the case study in chapter IV of this book, was not entirely a project which was the result of a programme previously designed in detail. For stylistic reasons we will ignore this fact when using the terms: plan, project and programme indiscriminately. On analogous grounds we will use the terms: district health centre and district health officer, civil administration and local administrator, anthropology and anthropologist, both in their personal and impersonal connotations; the same applies to the name of a village and the inhabitants of the village.

5. The Asmat terms are given in italics. Advised by *Voorhoeve* we made use of the spelling of the *Bisman* dialect as compiled by *Drabbe* in his dictionary 1959 (245). Some terms written in the Casuarine coast dialect have the additional "CC". Netherlands terms have the addition: "N", Indonesian or Malayan terms the mark "I".

6. The determination of the Asmat area has been executed with a planimeter on the maps of West New Guinea on the scale 1 : 100.000 of the territory, by the Topographic Service of the Netherlands at Delft.

7. Rural health service is used in accordance with the conception defined by the World Health Organisation (135): "an organization providing or making accessible, under the direct supervision of at least one physician, the basic health services for a community" (maternal and child-health, communicable-disease control, environmental sanitation, maintenance of records for statistical purposes, health education of the public, public health nursing, medical care to an extent varying with the needs of the area and the accessibility of larger hospital centres).

8. The illustrations have been drawn by Manakapir from the village of Erma.

9. Abbreviations used in this publication:

DHC district health centre
DHO district health officer
ITS initial treatment survey in yaws campaigns
LA local administrator of the civil administration
MCH maternal and child health (care)
RES resurvey of the yaws campaigns
VHC village health centre.

CHAPTER I

medical anthropology, a review of the literature

I. ORIGIN OF MEDICAL ANTHROPOLOGY

Historical contacts of medicine and social science with D. countries of to-day

In the 16th century Europe set its eyes on the tropical areas of the world. Almost immediately these regions attracted the attention of members of the medical profession. Social science evolved in the 19th century and soon the inhabitants of the countries lying near the equator became objects of study. In the contacts of both these sciences with many of the D.countries of to-day some trends were dominant in progressive sequence:

MEDICINE	SOCIAL SCIENCE
descriptive medicine from 1600 "a collection of very dangerous diseases"	
technical achievements from 1880 "this medicine is best for you"	*reconstruction of cultural history* from 1860 "from savage to civilized"
educational approach from 1920 "one-way traffic towards their mind"	*interplay between independent cultures* from 1930 "please be careful"
medical anthropology from 1950 "two-way traffic between different cultures"	

Medicine

During the period of the great new geographical discoveries of the world, many western doctors such as *Jacobus Bontius*, *Francisco Hernández* and *Willem Piso*, gave excellent descriptions of the diseases and medical customs of the inhabitants of the tropics. Western medicine had not yet developed its theoretical framework based upon natural science, so it could not make a more exact study of tropical diseases. There was generally an insufficient knowledge of therapeutic measures. For both these reasons the clinical picture of the tropics maintained its image of a collection of very dangerous diseases. Further, apart from some attempts by missionaries and by government sponsored explorers and settlers, western medical care for the inhabitants was not favoured under the auspices of colonial administration.

The end of the 19th century brought rapid technical developments in medicine. The microscope revealed the cause of many tropical diseases. The results of bacteriological and epidemiological researches now enabled a mass attack to be launched against the plagues of warm climates. *Schüffner* in Sumatra and *Gorgas* in Havanna demonstrated the favourable effects of environmental sanitation. Effective treatment of many diseases became possible after the discovery or technical purification of drugs like salvarsan, emetine and quinine. The ingenious Jogja system in Indonesia (84) is one of the earliest examples of a pyramid system of hospitals and out-patient clinics for the curative care of the inhabitants. A new outlook in colonial politics, an ethical trend, directed greater attention more specifically to the people living in the tropics. Medical schools and laboratories were established in the warm regions for training native candidates according to western standards. The work during this period however was rather authoritative and paternalistic in its attitude.

In the second decade of this century some health workers doubted whether this technical approach could be successful in a rather paternalistic setting. Western medicine in an authoritative context might be a completely strange element to the inhabitants of the tropics, far removed from their own world of ideas. The new educational approach advocated the explanation of the basic principles of western medicine. The elements of modern health work had to be made clear not only to students in training courses and medical colleges in the tropics, but also to the common people in the villages. The ordinary man in the village had to be made to understand the health work that was being offered to him, so that he might appreci-

ate its value and help to integrate it within the life of the village. Medical propaganda campaigns and health information services were the characteristic means of directing this trend. The work of the American University of Beyrouth in Syria (25), the hookworm campaign of the Rockefeller Foundation in Ceylon (94), and the pilot project by *Hydrick* in Indonesia inaugurated this educational method (53). In a most prudent and tactful way, avoiding every kind of moral pressure, these programmes tried to transmit western ideas on hygiene, health and disease.

During World War II the disadvantages of this educational approach became apparent. Objections were raised against the neglect of the people's *own* world of ideas and conceptions. These opponents of the educational approach compared it with the fallacy of the empty vessels: the old trend conceived health work as the pouring of the good wine of western medicine into the empty vessels of the D.countries. It was only necessary for the people in these countries to drink from these vessels in order to enjoy the genuine benefits of western medicine. On the other hand modern authors maintained that the vessels in the tropics are not altogether empty, but contain a very old local wine. When we add western wine, it becomes mixed up with contents of old local wine already present in the vessels. It is difficult to predict quality and nature of the new mixture that ensues. This new trend, medical anthropology, therefore conceives health work as a meeting between two cultures. The Dutch author *Verdoorn* (124) made one of the earliest contributions in this respect from the medical field. Already in 1941 he analyzed the limits and mistakes of the policy in regard to western midwifery in Indonesia. He concludes that "health work in the tropics does not depend ultimately on medical knowledge, financing or organisation, but it is after all a *cultural-anthropological problem*".

The first contributions from the field of social science were made somewhat later in 1951 by American Anthropologists.

Social Science

In the 19th century social science became an independent discipline. Their members thought the study of primitive people essential in order to get an insight into the origin and development of human culture. At that time all human culture was considered as one indivisible phenomenon, in the evolution of which the particular culture of every society on earth represented a certain phase.

In the second quarter of this century the concept of many co-existing cultures evolved. Each culture was conceived of as firm, independent and completely integrated, with its own indefeasible rights.
Researches into cultural changes revealed that when western culture penetrated into the original primitive culture it gave rise to many destructive trends. As a consequence social scientists were soon motivated to give a *noli tangere* form of advice.
Hitherto social science had remained an independent theoretical science. Researches were carried out for the purpose of collecting data which could be systematised within the framework of knowledge. Quite recently social science has developed applied subdisciplines, which have served the purpose of checking the impact of practical programmes in other fields of science, of tracing their mistakes and suggesting activities in other directions. In this way between medicine and social science a new inter-discipline, medical anthropology, evolved. (31, 38, 76, 80).

The term social science is comprehensive, and includes a number of systems of organised knowledge, each of which is concerned with some particular aspect of man in society. Even *Virchow* expressed the view that medicine, too, was a social science. History, economics and political science are the older members in the group of social sciences, the term "behavioral sciences" is used in the narrow sense for sociology, social psychology and cultural anthropology. They differ among themselves with respect to the central concept and objective, and the methods employed. Nevertheless certain areas in these fields overlap, so that their disciplinary boundaries are not absolute.
Sociology is concerned with collective phenomena, the study of patterned relationships within and between groups. Social psychology is primarily concerned with an individual as a member of a group, the concept of motive is central. The unifying concept of cultural anthropology is that of culture.
Sociology uses questionnaires and most commonly single interviews of many people. It relies on statistical methods. Social psychology emphasizes both statistical and experimental data. Cultural Anthropology leans heavily on field notes based on observation of behaviour, on participation as a method of research and on free interviews. It tends to employ methods which produce qualitative rather than quantitative results.
The difference in method between the three disciplines reflects a difference in type of population with which they customarily deal. Sociologists and social psychologists deal with populations whose language and culture patterns are similar to their own. Anthropology can play a key role where little is known about the customs, traditions, life and values in a society. (39, 103, 104, 105).
In general, therefore, cultural anthropology can be most helpful in D. countries. As we intend to limit the problem to the contribution which cultural anthropology can make to

medical assistance programmes in D.countries, we follow *Roney* in his term for the new interdiscipline: medical anthropology (102).

2. MEDICAL ANTHROPOLOGY, THE CONCEPT

Medical anthropology considers medicine as part of a culture.

Culture is a more or less integrated system of customs, beliefs, practices and values, which is passed on from generation to generation with varying degrees of modification. Medicine consists of a vast complex of knowledge, beliefs, techniques, roles, norms, values, ideologies, attitudes, customs, rituals and symbols, that interlock to form a mutually reinforcing and supporting system. (*Saunders*, 106). In its totality this system is functioning to solve a universal major problem of every society: disease. The term "institution" is given to such a system. Medicine as an institution is integrated with other major institutional complexes: religion, government, family, education, art, economy, into a functioning whole which is culture.

Culture is thus not a scrapheap of all these separate institutions; it is a more or less integrated, functionally related system. On the other hand, culture is not an unshakable mechanical construction like a clock work. Actually culture is not stable, but is constantly changing and on the move. It has flexibility. In some respects the institutions might be compared to the organs of the human body, whilst the term culture then would cover the entire function of the human body.

A flexible moving system with elasticity is generally more suited to receive and to neutralize outside forces than is a rigid motionless structure. The former will react locally, the latter will probably be shaken in its totality. The comparison can be made with the physiological constitution of a child which generally reacts rather easily to diseases, whilst an older patient may develop many secondary complications in all kinds of organs. This concept holds good for culture too. In Western culture the rate of cultural change, especially from a technological point of view, is more advanced and contains more cultural elasticity than the culture in D.countries. In the latter the pattern is more consistent and less changing. Therefore, especially in D.countries, medical assistance programmes implicate the involvement of many other cultural elements. Since culture is a functionally inter-related system of elements and institutions, these non-medical institutions in turn might cause repercussions in

the field of the health work. Hence medical projects in D.countries have to take into account the culture in its totality. When, during the implementation of these projects, friction points develop, many non-medical elements have to be considered both as an explanation and as a remedy.

It is the task of medical anthropology to detect and elicit the elements which have a bearing on medicine and health work.

Medical anthropology is a very young discipline. Most of the research in this field was done after 1950 when world-wide assistance programmes came into operation. Research workers realised that medicine had many cultural characteristics, but it was generally unknown what these characteristics represented. They had to find this out first before they could even assess the importance of the various characteristics. The literature of medical anthropology in this respect can be divided into three different groups.

The major part of the research consists of *case studies*. Generally these are descriptions of health projects whose success did not come up to expectations. Social scientists were called upon to assist with their techniques in an attempt to find out the friction points. These studies revealed many of the cultural characteristics of medicine. For the most part medical anthropology is still in this descriptive phase. It collects material to illustrate the cultural connections of medicine. Thus almost all its literature represents a *retrospective view*.

Only a minor part of the literature deals with *theoretical concepts*. Ten years of research devoted to case studies have not yet led to the formation of concepts to cover all the data collected within a theoretical framework. Medical anthropology has not yet reached the stage of possessing "schools" and "trends". Some fundamentals are, however, already apparent which may be helpful in considering theoretical concepts.

With regard to the *prospective view* we are still in the stage of predicting by rule of thumb. Since data are still being collected and there is as yet no firm system of theoretical knowledge, it is very difficult to outline a logical plan for future theoretical research or to summarize relevant indices in order to predict or even to predetermine developments in future aid programmes. The literature with reference to a prospective outlook is therefore very scanty.

In chapter six we will attempt to summarize the data from the literature, submit a new practical scheme suited for field work and offer suggestions for a new concept for further theoretical research.

3. THE RETROSPECTIVE VIEW IN THE LITERATURE

As an all embracing or even sufficiently developed theoretical concept is not yet available in medical anthropology, it is impossible to present the literature of the case studies – as is usual elsewhere – according to general viewpoints.

The new scheme in chapter six has a practical purpose. It therefore uses medical criteria. The authors quoted below, however, often start from another viewpoint, and use criteria from the field of cultural anthropology. In order to review these authors objectively, we did not feel justified, in using the medical classification at this stage.

The literature will therefore be reviewed in a geographical order to illustrate the basic idea of medical anthropology: the cultural context of medicine.

From 1942 onwards the United States of America participated in bilateral health projects in Brazil, Chile, Columbia, Ecuador, Mexico, Peru and El Salvador. In 1951 and 1952 some of the results of these programmes were studied by cultural anthropologists familiar with the general outline of each culture. *Foster e.a.* (34, 35, 37) found that two categories of data were important: folk medicine and interpersonal relationships.

Folk medicine is the complex of beliefs, attitudes and practices associated with health, prevention of disease, disease and cure, held by the people. Western medicine can proceed without many explanations, when it blends with folk medicine by using ritual numbers for the doses of drugs, by following the popular method for disposal of the placenta, by respecting the popular conception of *mal humor* as a cause of disease.

The level and nature of the personal relationship between patients and public health personnel often suffered, because the western doctor belonged to a social class which was instinctively distrusted by many patients. He was also less inclined to promise a definite cure. The healer of folk medicine, the *curandero*, enjoys great faith and confidence because he belongs to the same social class as the people and he guarantees quick results.

Similar findings are reported by *Simmons* (113, 114). In a Chilean health centre the nurse had to bridge the mutual ignorance of the people and the doctor about western medicine and folk medicine respectively.

Erasmus (27) too was mindful of the importance of intermediaries in medical work.

They are the most vulnerable link in the chain of communications. The nurse and the native *visitadores* did not believe in the western ideas that they were supposed to transmit.

Guillen (46) reports both successes and mistakes of a malaria campaign in the interior of Peru, which he attributes to the knowledge and ignorance respectively of the local culture by his bilingual local medical assistants.

Wellin (129) investigated the reasons why only few women in a Peruvian town could be persuaded by the health workers to boil contaminated drinking water. Their decision to boil or not to boil the water was only partially based on their being convinced by arguments about hygiene. Lack of time, the authority of the health worker concerned with hygiene, a conflict between their own and modern health values – their allegiance to the former precluding the acceptance of the latter –, and local medical belief in a distinction between "hot" and "cold" foods were the major decisive factors that made them refrain from acting on the health departments' advice.

Oberg and *Rios* (83) observed the shipwreck of a carefully planned health centre in a Brazilian town because the importance of the established social organizations of the community and its relationships to the project had not been taken into account.

In Suriname, *Wolff* (132) had the experience of noting how a campaign to eradicate hookworm appeared to have magnificent results, until the delighted healthworkers discovered that the great demand for the purgative oil was based only on its excellent qualities as a brylcream.

In Guatemala a nutritional research ran into difficulties, because the programme was knit too closely with a certain political group. The health project became the battlefield of political passions. Furthermore *Adams* (3, 4, 5) discovered that the local medical conceptions about the non-regenerative nature of the human blood impeded the taking of blood samples by the research workers. The resentment by the villagers over the limited service of a medical clinic and animosity among the project personnel gave the last blow to the project.

According to *Lewis* (64) the failure of a clinical centre in a Mexican town originated in the notion held by the people that the health work was the activity of an outside group, and that the assisting agency threatened the position of those in power.

During a survey in a Spanish-south-west village in the United States of America, *Saunders* (106, 107) found many reasons why western medicine was not accepted:

the urbanisation of western medicine, the expense, difficulty in contact with the health workers, fear of separation from the family by hospitalization, all kinds of notions that there are diseases about which western medicine has no knowledge, and the fear by the villager that the doctor might not be *simpatico*, indicating that western medicine is too impersonal and too technical.

In the United States of America a special study has been made of the Navajo Indians. Social scientists participated in the health work from the beginning. *Adair, Deuschle* and *Mc. Dermott* (2, 24, 69) report that in the course of their work great attention was paid to the political and social organisation of the people. Great importance was attached to native religious values and native medicine was respected. An effective communication system was worked out through bilingual assistants. Co-operation between Navajo medecine men and western physicians was encouraged on the basis of increasing the formers spiritual influence and delegating somatic responsibilities to the latter. Notwithstanding these rather unique precautions in health projects, problems did arise. The bilingual assistants were unable to translate western medical terms in "analogous" Navajo terms: a "conceptual transfer" was impossible. Members of the health project realised that trained native workers are intellectually and emotionally too far removed from their own rural people for maintaining good contact. The limited cultural conception of disease was illustrated by the fact that the Navajo Indians do not consider congenital subluxation of the hip as a pathological condition. A surgical failure on the part of western medicine that later resulted in fusion of the hip joint in one of the Navajo children, heightened the mistrust for western scientific cure of this disease.

In South Africa *Cassel* (21) reports experiences from a health centre in a Zulu community. The cultural role of their staple food was a decisive factor in changing their dietary habits. A tuberculosis control programme met with severe resistance because the disease was attributed by the people to the work of an illwhisher and a white doctor could not be expected to know much about this.

Miner (77) gives an excellent example from Nigeria. A sanitation programme for the eradication of the tsetse fly proved unsuccessful after twenty years, because the real meaning of the programme was never understood by the people. The inhabitants linked the measures prescribed only with authoritative instructions. In their culture it was not customary to argue and oppose frankly controversial ideas. Hence the

health workers never even noticed that the sanitation project was not understood by the people.

Similar findings are reported by *Janssens* (54) from the former Belgian Congo. Health work there had been based mainly on authority; authochtonous knowledge, language and customs were neglected. Motivations for any measures proposed were hardly ever given.

Evans (28) analysed an overpopulated region in Tanganyika. He states that the health aspects constitute an important part of the broader issues of general community welfare and that failure to realise this had been most often the cause of failure in the past.

Carstairs (20) concludes after two years' practice in a Northern India village that the main problem was how the role of the western doctor could best be adapted to fit into the existing cultural expectations of the people.

Similar experiences had been gained by *Marriot* in India (75). Differences in western and Indian expectations from the medical practitioner were the core of all the drawbacks encountered in the realisation of a health programme.

Freedman (43) describes how the inhabitants of an Asian town refused to make use of the facilities of a western hospital, because the setting of the health work was too unfamiliar to the people.

Hsu (51) witnessed a cholera epidemic in a Chinese town and noticed that western medical facilities were ignored or utilized inconsistently because, it was said, western medicine was only scientific, whereas in the Chinese conception of medicine scientific and magical elements were interwoven.

In an analogous situation *Hanks* (47) observed that a planned immunization scheme had a poor response, because the announcements had been based on authority rather than on the common channels of information.

Verdoorn (124) describes the poor success of the midwifery policy in the former Netherlands East Indies. He emphasizes that by neglecting the people's notions about the delivery process and ignoring the emotional role played by the inland practitioner, the peoples' expectations could not be fulfilled, there could not be a bridge between their ideas and western ideas and so they did not make use of the facilities provided.

Swellengrebel (118, 119) reports from the former Netherlands East Indies how a better housing programme for plague control collapsed after World War II. The health workers had never attempted to find a link between the oriental and the occidental

conceptions of the cause and cure of the disease. Consequently the measures taken remained completely beyond the world of authochtonous ideas.

Freedman (41) revealed weak points in a nutritional survey in Indonesia. Western practitioners advocated the consumption of fish by children as a food rich in protein. The people held the belief that fish was less suited for children because it caused infestation with worms. Even the kitchen personnel in western hospitals disobeyed the instructions of western doctors to prepare fish meals for this reason. Health education campaigns proved to be of little use, because the people could not understand the meaning of the posters and pamphlets issued.

Peters (93) describes a malaria eradication project in the Territory of Papua and New Guinea. The natives were ignorant of the aetiology of the disease. An outbreak of a pseudococcus infestation that devastated the yam crops seriously interfered with the malaria control programme, as the natives attributed the yam disease to the spraying campaign.

Schofield and *Parkinson* (108) express a critical view about the usefulness of the aid-posts in some districts in New Guinea. The native orderlies who were in charge of these posts did not believe in western health measures. They were often afraid to put these measures into practice, as they feared the repercussions that might follow from those in power in their tribe.

4. GENERAL VIEWPOINTS

The central idea in medical anthropology is the cultural context of medicine. From this starting point various theoretical reflections can be made.

Every culture has its conception of health and disease. Diseases, according to western ideas, may be regarded as "natural"; smallpox in many Asiatic countries, yaws in the South Pacific, worms in Malayan countries (*Firth*, 33) congenital dislocation of the hip among Navajo Indians (*Deuschle* and *Adair*, 24). In some districts of the Andes goitre is a major health problem, but the enlargement of the neck is regarded as a physical asset, and girls with thyroid enlargement obtain husbands more readily than those with normal thyroids (*Mackie*, 72).

When two cultures meet, each has its own ideas about the conditions which, in its view, are regarded as abnormal and therefore as diseases and each has its own opinion

about the causation of disease and the factors that constitute medical problems. In many D.countries there is a distinct group of diseases for which quite clearly a patient will not consult a western practitioner, who cannot be supposed to have the indigenous knowledge that will enable him to trace the cause of the disease and thus to cure it. *Foster* (34) mentions diseases caused by *mal ojo* in South America. *Ferguson* (30) reports a similar situation in South Africa. In Ecuador *Hanlon* (48) tried to determine both groups of diseases statistically.

Similarly the western view that preventive medicine really forms part of medical work, is a culturally determined idea (*Foster* 36). The average man in D.countries is interested in physicians because they can cure his ills. He usually avails himself of medical help primarily not to keep well, but to get well. *Dorolle* (26) doubts whether primitive people have any idea about technical measures for the prevention of diseases. Actually preventive measures often exist indigenously in the form of religious taboos and rites, which, in the local culture at least, compete with and often exclude ideas of technical prevention of diseases as held by western medicine.

The cultural context of medicine includes not only the distinctive concept that each culture has about health and disease, but also the distinctive concept that each culture has about the place of health in its scale of values. How prominent in a given culture are the positive or negative feelings towards health and disease? *Murphy* (79) commented that as a positive concept health occupies a low place among the things desired in African life. It is probably surpassed by land, crops, marriage, sex and reputation. To the uneducated African "good" health generally includes a "normal" amount of disease. To study the system of values of another culture objectively is probably one of the most difficult tasks in anthropological field research (*Read*, 97). Such a study is one of the basic needs for intercultural health work. In places where health is considered to be rather unimportant, it may be difficult to draw the peoples' attention to health matters. This leads to the discussion of the relationship between the place that health occupies in the local system of values and the importance of health education work in western medicine.

When western medicine attempts to start a health education campaign in D.countries, two topics must necessarily receive prior consideration: 1. what values in western medicine are worth being advocated to another people; 2. what do the people themselves think about the topic chosen for health education; what value is attached to this subject in their cultural system?

Often the so-called values of western medicine that are advocated in other places, are not so much concerned in reality with scientific medicine, but are a cultural package that includes the idiosyncrasies of western medicine. *Schoene* (109, 110) even holds the view that medical norms in scientific medicine, derived from scientific results, may be said to be of extra-cultural origin and their applicability may be regarded as potentially universal. Obviously in daily practice the core of scientific medicine is surrounded by many customs that are determined culturally.

Paul (91) remarks that cleanliness is both a health measure and a cultural value. *Foster* (35) gives an example from El Salvador, where western breastfeeding by the clock was still rigidly advocated, at a time when western doctors had already abandoned this method. *Hsin Pao* (50) admits that the people in D.countries are not always wrong in putting up a strong resistance against us and in having some feelings of distrust for our innovations which may not always be free from vanity, naiveté or pedantry. The peasant, whom we regard as ignorant, is in some cases more enlightened than we are, and we sometimes expose ourselves to ridicule by trying to teach the peasant something that we might very well learn from him.

Hence as far as the second question is concerned: what do the people think about the proposed topic of health education, it is a prerequisite that initially the educator and the pupil will have to change places (*Swellengrebel*, 118). Only by finding out the peoples' opinion can we avoid numerous false assumptions in health work, as enumerated by *Freedman* (42) *Paul* (86, 91) and *Read* (97).

The general misunderstandings in sanitation programmes are: "They" have more odd beliefs and habits than we have; our ideas are more advanced than theirs; their beliefs are isolated elements, rather than parts of a system of patterns; the village school and schoolchildren are an obvious starting point for health education programmes; a village is a unity and villages will follow their leaders; the administrative framework of a country necessarily gives the social pattern for the country as a whole; official programmes and schemes for general betterment are statements about the actual sets of conditions.

When the health educator has an insight into the values that he himself wishes to advocate and an insight into the values held by the people in the health field, the question then arises whether the sense of values of the people should be changed by educational measures. The ethical questions that are involved in guided cultural-change projects will be discussed in chapter seven. Here we will only consider the

problem: is it necessary to change the sense of values and if so, how can it be done? *Caudill* (22) mentions the experience of many anthropologists that to change native concepts about the aetiology of disease is most difficult and is not essential for carrying out health programmes.
Firth (33) elaborates on the same point:

"The general proposition is often put forward by anthropologists and others, that if education, medical or other, and developmental processes are to contribute effectively, then they should be latched on to the existing beliefs and practices wherever possible. It is clear that the most successful type of health measure may well be that which can be made effective in the mass, without calling upon the intellectual agreement of the people to any radical degree. One implication is that health education, to be effective. should probably be general and non-specific. It is in raising the general educational level, not merely in promoting specific health ideas, that advance may have to come".

McDermott and Deuschle (69) depict what really takes place most often when they state that health programmes are usually performed with persuasion. Unfortunately in most D.countries this persuasion is not accompanied by an expectancy of a rapid social economic change. In the 19th century both in Europe and in America it was this social economic change that became the best stimulus for better hygienic measures. *Foster* (38) calls this change of values a "directed cultural change". This is a situation in which group problems or goals are recognised – either by the people themselves, or by government agencies or private groups – and conscious attempts are made through rational processes to solve the problems or reach the goals. Foster's major theoretical contribution is the distinction he makes between "barriers" to and "motivations" for changes. Cultural "barriers" often hamper directed cultural changes. "Motivations" may be thought of as the antithesis to "barriers". They are instrumental in bringing about changes. In different situations the same phenomenon may have a positive or a negative function, acting either as a "motivation" or as a "barrier" to change.

Foster mentions some examples of barriers: suspicion of new things, fatalism, modesty, religious factors, social structure, family structure and suspicion of governmental programmes and governmental personnel. These "barriers" are rooted in cultural differences. The contact situation may contain "barriers" such as: communication problems, perception problems, faulty techniques and differing expectations.
"Motivational factors", that can be utilized in programme planning, are particularly:

prestige and perception of economic change. Moreover Foster mentions: competition, desire to please, "forbidden fruits", play and authority.

Considering health education, *Paul* (87) summarizes the ends served by the native disease concepts. Popular disease concepts have an integrative function, which give the health-disease problem its proper place in the totality of the culture. Secondly, popular disease concepts have a controlling function. They exert a psychological control, a social control and a technical control over the patient. Western health education generally stresses the technical control which western medicine can exert over the patient, but it ignores the other functions of popular disease concepts. Western medicine is therefore often considered to be inferior to popular disease concepts.

This brings the discussion back to the different kinds of medicine. In D.countries scientific medicine meets folk medicine. Western practitioners often divide non-western medical practices into rational or empirical and irrational or magical categories. Their attitude is often somewhat compassionate, and therefore unsuited to act as a bridge between western medicine and folk medicine. *Foster* (38) remarks that native healers, within the framework of their knowledge of the real world, of cause and effect, are just as rational and logical as the scientifically trained individual. One of the main goals in aid programmes is to break down the dichotomy between folk medicine and scientific medicine. This has to be done in the field of theoretical study, and in the practical field of the daily practice of western medicine in D.countries.

In the theoretical field *Hughes'* (52) original study might well help to link both types of medicine. His cross – cultural review distinguishes indigenous medical beliefs and customs according to certain criteria derived from all-day life, such as: food, technological behaviour, material culture, religion-magic. Hughes then makes a mere theoretical appraisal – protective or injurious – in an attempt to estimate the value of these indigenous medical beliefs and customs for scientific medicine, according to western standards.

The final problem is of major interest: the actual attitude of the western practitioner towards folk medicine. If western medicine wishes to contribute to the health work in D.countries, how can it best fit in with the medical culture of those regions? A re-orientation of our western values is a primary objective as already indicated, but western doctors seldom go beyond this point in their attempt to re-define the role

of the scientifically trained practitioner (*Chen* 23). *Majumdar* (73) discusses this point of issue excellently:

"Should not western medicine reorient its approach by adopting the role that indigenous systems have played and still play; or should it allow indigenous systems to orient their approach by entrenching more effectively in modern medicine, to elbow out modern practitioners? Western medicine must work for its social acceptance, if it wants to serve the people and the profession. The key to social acceptance lies in re-defining the cultural role of western medicine, and integrating it into the social organisation and pattern of rural life, which the profession has not done so far. *Acceptability of a method is just as important as its efficacy and this is more true of western medicine*".

5. THE PROSPECTIVE VIEW: SOCIAL SCIENCE AND HEALTH PROGRAMMES

Theoretical considerations

For health action in the future culture has two implications: How does the community perceive and respond to the proposed health programme? How do health workers perceive and respond to the community and its culture? (*Wellin*, 130). To illuminate these points the social scientist appears upon the scene. Theoretically the outline of his task is not yet clear, as *Firth* (33) comments:

"There are three difficult questions:

1. Just what are the existing beliefs and practices which it is necessary to take account of. *What* are they precisely. An unsystematic description of scraps of information may lead to an exaggerated respect for taboos and an underestimation of the importance of features of the society which may throw a medical programme out of gear.
2. Granted this knowledge has been ascertained, how is it to be integrated effectively into any programme on medical training, at what stage and by whom?
3. Granted the requisite local knowledge has been obtained and supplied to the medical profession, what does the doctor do about it? What decisions does he make on the spot when local beliefs and forms of treatment are in direct contradiction to good medical practice?"

During the implementation of the programme many problems may arise, which *Paul* (92) divides according to five gaps recurrently appearing in the path of programme fulfilment.

1. "The cultural gap. It comprises not only the visible problems of the "customs", which are at the top of the iceberg, but also the much greater, not visible part of the layered culture structure thereunder.
2. The status gap. Problems with the elite, cooperation with them, and the diffusion barrier they form to the great mass of the people.
3. The aspiration gap. The expectations of the people are likely to rise more rapidly than the improvement in the actual conditions of life.
4. The urbanization gap. Here we find problems arising from the influx into the towns.
5. The research gap. Too few anthropologists and too few health workers familiar with the cultural problems, are available. Often anthropologists have studied culture and how it changes over time, but have had less experience studying the process of individual culture change activated by programs of technical aid".

We feel that the research gap is not a problem which originates directly from the intercultural meeting, but is a question that refers to insufficient handling of the programme by the assisting agency. The urbanization gap - and to a lesser degree the status gap and the aspiration gap - may, we feel, be regarded as both cultural and social problems. We do not wish to take sides in the controversy, whether it is possible to make a hard and fast distinction between two aspects of social life: cultural and social problems (*Locher*, 67). Problems are distinguished at these two levels by *Foster* (38). He thinks that social problems in health programmes are associated with types of organisation, bureaucracy, selection processes and recruitment of personnel, communication and perception, interpersonal relationships within organisations and across cultural boundaries, and behaviour expectations of individuals in all contact situations. We think that some of these problems might well be considered as falling within both cultural and social categories. As our study starts from the concept of the cultural context of medicine, we will not enter into details about this group of problems. We have not, however, entirely excluded these social problems from this review and from this case study, as their discussion might illuminate problems that are obviously cultural.

Paul (90) explains that a useful assessment of a programme in terms of a process does not necessarily hinge on the success of the programme. It can be equally illuminating to seek out the processes that underlie failure. He therefore distinguishes three criteria:

1. The *effort* criterion. It measures the energy and action of the health team and all the efforts made.
2. The *effect* criterion. It measures the results of the efforts, rather than the effort itself. It tells us "whether" but not "why".
3. The *process* criterion. It assesses the route by which the effect was achieved. If no

> significant changes are registered, it may still be constructive to analyse why the programme went around in circles.

The importance of this third criterion is fundamental, because reports and analyses should be made not only of successes but also of failures in health work.
(*Seminar of the health education of the public in Africa*, 137)

practical suggestions for the task of social science in health programmes

As far back as 1951 *Foster* (34) and *Tannous* (120) already drew up a list of subjects which had to be studied by social scientists in order to advise and guide a health programme. *Dorolle* (26) distinguished 4 tasks for the social scientists:

1. To make a preliminary report of all the work done in the region.
2. To make a complete study in a field survey. *Dorolle* draws up a detailed programme.
3. To make proposals for the application of the health programme, based on data collected.
4. Constantly to study the population concerned while the programme is in progress with the object of advising readjustments in the health programme should the need arise.

Foster (38) added a further task for the social scientist: the selection and training of programme personnel, and the evaluation process of the health programme. Less comprehensive but more elaborate suggestions in details have been given by *Foster* (35) *Roney* (100) and *Ross* and *Simmons* (105). *Lebeuf* (62) follows the pattern divised by *Dorolle*, but he adds many further practical suggestions.

This is a summary that reviews the tasks and methods of social science only. We do not feel justified in making a critical comparison between tasks and methods in a science in which we are not specialists. We drew up this compilation in order to make it clear where the medical practitioner can expect the help of the social scientist and what useful questions medicine may ask over the disciplinary border.
We have still to touch on the place of the social scientist in his work in any action programme. On this issue the trends of views are poles apart: 1. According to one view there

should be complete separation of social science from the health programme. 2. According to the other view there should be a complete integration of the social scientists' work with the medical work. Traditionally anthropologists tend to favour the first attitude. This point of view depends on their training which has been orientated to theoretical rather than to practical problems (*Firth* 31). Recently some anthropologists have expressed the view that integration might provide more effective working conditions (*Foster* 38, *Dorolle* 26).

Conclusion

Finally, on the question of what interest medicine may have in the help that can be derived from social science, we will quote some controversial authors.

In the ten years since *Caudill* reviewed applied anthropology (22) the role of the social scientist in health programmes has no longer been unusual (*Brockelmann*, 15).

At a WHO seminar on the health education of the public in Africa, it was stated that (137): "a deep knowledge of the social and cultural context of the people, especially their attitude to health and to the social problems, is most important for carrying out the public health measures, and absolutely essential in order to get their co-operation".

From a wide experience *Cicely Williams* (131) concludes: "Western medicine has much to contribute to international progress, but its contribution depends on its appreciation of the social sciences as well as of the biophysical".

Dorolle points out: (26) "Heureusement de plus en plus on comprend que l'œuvre de santé ne peut être le monopole du médicin, de l'hygiéniste et de leurs collaborateurs techniques. Dans le domaine complexe des mythes, des rituels, des tabous, de la magie, de la sorcellerie seul l'ethnologue peut se mouvoir avec certitude et interpréter les idées et les pratiques de la population".

The 1963 United Nations Conference on the application of science and technology for the benefit of the less developed areas, offered many affirmations of this opinion in its working papers, of which we will only quote the Dutch author *Tesch* (121): "it has now been recognised that the success of programmes in the field depends on social and economic backgrounds, and not in the last place on the cross cultural induction".

Reviewing numerous health reports of national or international projects, however, one often finds nothing at all about the urgency of social scientists' assistance in health

work. It appeared to be a cheap success to make a long summary of negative quotations. One recent example which is rather representative, may serve as an illustration: in drawing up a new scheme for priorities and targets the American Association for Tropical Medicine gives a most detailed account of the clinical, technical epidemiological aspects of many tropical diseases which have to be studied, without referring, however, to the human person who actually is sick (122).

At the risk of appearing to end on a negative note, we feel compelled to quote some more critical remarks on the role of social scientists in the health setting.

Foster (38) already asks whether social scientists tend to overstress the importance of concessions to indigenous customs, given the practical nature of the people. He illustrates this problem with the example of an hospital in Quito, which did not respect folk beliefs, but nevertheless achieved outstanding success among the people by its high standards of medicine.

Braithwaite (13) pointed out that anthropologists used to work with a model of culture derived from the level of the tribe or the village. He explains that this is quite adequate for many purposes, but that in public health, particularly with reference to some of the poorer areas of the world, one needs to operate on a nation-wide or state level.

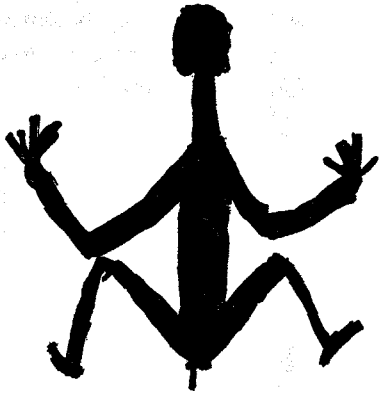
Cicely Williams (131) estimates that surveys by anthropologists sometimes lead to constructive suggestions but sometimes they lead merely to further surveys. Social scientists are liable to concentrate on one aspect of the problem. If repeated surveys are carried out, and especially if they are not followed by constructive action, they may produce a sort of allergy and a non-co-operative community.

Newell (81) working within a Maori Community in New-Zealand pointed out the limitations of the social-cultural approach.

The most provoking comments followed *Polgar's* review (95) where *Cassell* made the rejoinder: "the body of knowledge for example that can be contributed by social sciences to elucidating the health relevant social and cultural process, is in my opinion different from that required to understand patterns of utilization of medical care. In terms of the implications of these ideas for future studies, I think that the possibility should be born in mind that we have at present sufficient data to develop some useful conceptual schema if we can only put the pieces together in some different fashion".

The same opinion was expressed by *Caudill* (95) "the contribution of anthropology,

deriving in one way or another from the concepts of culture, needs much theoretical and methodological development, in order to meet the research challenges presented by life in the modern world, and more in particular to enable us to go beyond descriptive "common sense" in understanding problems of health and human behavior".
We think that both authors clearly characterize the present-day situation of medical anthropology. Medical practitioners are gradually becoming familiar with the idea that social science can offer help in medical programmes.
This concept however, is not yet widely known and the idea has to be promoted. This study is intended as a contribution in this direction.
The major problem for medical anthropology is still the conceptualization of all the relevant data within a theoretical framework, which can be useful for future theoretical study and for practical field work.
We will expand on this last point in chapter six.



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CHAPTER II

the asmat and its peoples

The anthropological setting of the health work

I. GEOGRAPHY

The Asmat is situated in the southern part of West NewGuinea, the second largest island on earth, between the Asian and the Australian mainland. The administrative boundaries have been changed frequently and the territories of all the ethnological groups have not yet been completely mapped out. We are concerned with the largest area in the Asmat region when it was an independent medical district on December 31th 1961 (222, 223).

The total area of the Asmat including inland water is 26.725 square kilometers or 10.319 square miles. That is nearly 3/4 of the size of the Netherlands, or ranging between Vermont and Maryland in the U.S.A. The boundaries of the region are:

on the south: the Arafoeren sea, the length of the coastline is approximately 215 kilometers.
on the west: The Torpedoboot river from its mouth to a point situated in Lat. 4°25'S. Long. 137°43'E. Its length is approximately 120 kilometers.
on the north: A straight line from the last mentioned point till Lat. 5°00'S. Long. 139°54'E. Its length is approximately 250 kilometers.
on the east: a line from the last mentioned point along the Island river to its confluence with the Wildeman river; then straight to Lat. 5°45'S Long. 138°50'E straight to Lat. 5°50'S Long 50°45'E.; then to the origin of the Doejoesieriver, westward of the watershed with the Emogon river, then following the watershed between the Sereh and the Kombe-roe rivers to a point south of the mouth of the Sereh river to the Queen Juliana river, finally following the watershed between this river and the Bapai river to the Arafoera sea. The length of this frontierline is approximately 300 kilometers.

The centre of the region is the Flamingo Bay or East Bay, N. Oostbaai, at the mouth and at the confluence of the North-West river (*Pomatsj*), the North- or Lorentz river

(*Undir*) and the Oetoemboewee (*Asewetsj*) river. Nearby at the mouth of the Asewetsj river lies the administrative centre of Agats at Lat. 5°32'S. Long. 138°09' E.
West of the region is the Mimika area, post Kokenao. From Agats to Kokenao is a distance of 200 kilometers by sea, 320 kilometers by inland rivers. North of the Asmat is the Baliem area in the central highlands. This region is not accessible by land. East of the Asmat is the Mappi area, post Kepi. From Agats to Kepi travelling along the Island river and the Wildeman river, is a distance of 260 kilometers. A small portion of the eastern borderline is adjacent to the Upper Digul area. Merauke situated 500 kilometers to the east is the administrative and economic centre of South New Guinea.

2. PHYSICAL ENVIRONMENT AND CLIMATE

The Asmat region consist of a flat and marshy lowland lying at sea-level. The landscape has two main characteristics: rivers and jungle. The majority of the rivers come down from the mountains forming rapids between the hills in the border region. Some rivers have their origin in the marshes. A dense pattern of connecting streams links all the great rivers. At the mouth these rivers are up to three kilometers in width.
From the sea inwards one can distinguish four regions: the mangrove forests and the jungle covering the largest portion of the region, the savannahs consisting of great stretches of water, grass and reed, and finally the hills at the foot of the mountains.
The lowland consists of a diluvial layer of red clay covered with peat bog. Only in the neighbourhood of the mountains can some sandy riverbanks be found.
One third of the jungle consists of iron-wood and trees of soft wood whilst sago palms, bamboo, lianas, small fruit plants and some tobacco form the remaining part of the woods. Along the riverbanks orchids compete in colour with the "Flame of the forest", a liana.
The animal world belongs to the Australian fauna, with only a few Indo-Malaysian representatives. There are no large animals such as tigers, elephants, buffaloes or monkeys. The tree kangaroo, the cuscus, the wild pig and small mammals are a desirable prey for the Asmat hunter. As domestic animals the howling dogs disturb the silence of the villages at night. Cats and chickens have been introduced quite recently. Among the many noisy birds in the jungle are the cassowaries, parrots and

birds of paradise. Dangerous crocodiles share the riverbanks with numerous snails and crabs. Sea-fish and river-fish are abundant both in number and in kind. Mosquitoes are a nuisance in the eastern villages during some months of the year, but they are less abundant in many western coastal villages near Agats.
The climate is that of a tropical sea region with two distinct periods: the north-westerly monsoon from December till March and the easterly monsoon in July and August. Rainfall is extremely high, usually in the afternoons. The average annual rainfall is about 5000 millimeters, covering about 200 rainy days. There is no definite dry season; there are some dry weeks in August. On the coast the average temperature at noon is 26°C cooling off during the night to 16°C. As the winds are usually strong the climate is very pleasant, especially along the coast. The difference between high tide and low tide in Agats can be as much as five meters. Some months of the year have two tides a day. Storms during the monsoons may rage so vigorously that it may be difficult for seagoing vessels to put in.

3. THE PEOPLE

A. GENERAL CHARACTERISTICS

About 30.000 out, of the 33.000 inhabitants of the region under consideration call themselves *Ásmat-ow* meaning: "we, the real people" (*Drabbe* 246), this is in contrast to all ghosts and spirits that are elsewhere. Another explanation refers to the name of this tribe as *As-amát*, meaning: "we, tree-people", or *Samot:*, "we, this group of people" (*Voorhoeve*, 448).

Small groups of the *Awju*, *Kajagar* and *Sawuj* tribes, living in the eastern part of the region, were under the care of the DHC in Agats. These inhabitants are not considered in the general ethnological description, but they are included in the statistics of the health work. By the end of 1961 the nomadic tribes of *Nafarepi* in the north-western part and the small villages of the *Pesechem* along the foot of the hills had not yet come under the continuous care of the LA and the DHO. Outside the region described, two Asmat-villages, *Kaimoon* and *Waigin*, were situated near the mouth of the *Digul* river. The inhabitants separated from the village of *Amborep* and fled to their new place of settlement in 1953, because they were afraid of intertribal wars. They are not included in the statistical material as they were under the supervision of the DHO in Merauke.

The Asmat people have the characteristics of the australoid and negroid race. Their

heads are dolichocephalic in shape (*Cave* 237). They have brownish dark skin and – in contrast with their neighbouring tribes – they have excellent teeth. They are emotional and passionate. Even the most trivial reason can immediately arouse a quarrel accompanied by all kinds of weapons for slaying and stabbing, much shouting and an immense display of emotion. In personal affairs they are great diplomats, most competent at creating a good impression and at posing so as to appear to be much better or more innocent than they really are. They are genuinely talented at spreading false rumours, *jispár atakám*, in order to enlist the co-operation of their fellow tribesmen or to cause a misunderstanding between two outsiders so that they can profit from their embarrassment. Dealing with these noisy Asmat people is therefore very exhaustive.

However they also have a great sense of humour and notwithstanding their talents for acting and intriguing, their extrovert nature prevents them from escaping in embittered silence in their conflicts once they are unmasked. They will rather spontaneously admit their defeat with some kind appearance of sportsmanschip but will immediately start thinking about a better chance in future. While admitting that their way of life is exhausting, it is a most pleasant experience and a privilege for every western incomer to live among –, have to do with and work among the Asmat people.

It is probable that the isolation of the Asmat people can be attributed to their rude way of life. They were free from tuberculosis in contrast to the population of the neighbouring Mimika area. In the beginning of this century granuloma venereum did not reach them from Merauke. A bloodgrouping sample survey revealed extreme frequencies of the genes A.B. M. and CDe. (*Nijenhuis, Bekkers, de Vries*, 364). A measles-free pattern was discovered in a measles antibody survey *Adels, Francis, Gajdusek*, 201, 202).

The results of both surveys are in contrast with findings in other parts of New Guinea. How yaws was "introduced" is an open question. The casual capture of children from neighbouring tribes might explain the presence of yaws among the Asmat.

B. MATERIAL EQUIPMENT

Clothing and adornments

Clothing is almost non-existent. Married women wear girdles round their waists (*awér*). Side-fibres are torn off from the leaf of the sago tree and tied to a woven

beltpiece. Grass-fibres tied in front are drawn between the legs backwards and secured upwards at the back of the belt. Mats, (*tapin*) made of pandanus-tree leaves tied together, are folded lengthwise and are tied together along one of the smaller sides. Worn as caps, they give good protection against the rain. Adornments are very common.

Examples of adornments are: the nose-bone made of a swine bone; the nose shell; artificial hairs of grass or casowary feathers and cuscus skins worn as a cap; collars of red, white and brown seeds and dog's teeth; bracelets of rattan or human hair a waist-band of shells, rattan belts and leggings. Red paint, made from red river-clay, white paint made from burnt shells, and black paint, made from charcoal, are often used for painting the body.

The Asmat house

The houses, *tsjem*, are built on wooden poles with the floor situated at a height of 80 to 200 cm. Some villages have watch houses built in the trees 20 to 45 meters high. These also serve to protect the women against attacks.
The framework of their houses is made of soft wood, tied together with rattan and this also forms a tapering roof. The floors are made of small wooden poles, covered with nipah palm leaves and a layer of tree-bark. The walls and roofs consist of tiles, *ondów* or I. atap, made from the leaves of the sago or nipah palm. Long strips of the leaf are folded in two, and arranged side by side with the vein inside the fold. They are then tied together. The front wall of the house has openings serving as doors which are closed at night with an atap. Inside the house fire-places, *jowsé*, are built between four poles, two of which support the ridge-pole. The fire burns on a layer of clay and above it there is a rack on which fish and wood are dried. The open attic serves as a place for storage. Every family unit has its own fire-place and its own door in the front-wall and in the back-wall. The latter serves as a secret exit into the jungle behind the house. The inside height of a house is two to four meters, the area ranges from 3×4 to 7×25 meters. These types of houses last for $\frac{1}{2}$ to 1 year in a reasonable condition.

Transport

All transport, inside and outside the settlement is by a hollowed out canoe, *tsji*, Cc *tu*. The semi-nomadic way of life in this marshy land of rivers accounts for the canoe being the most important hand-made property of the Asmat people. It is treated with the utmost care.

The smallest canoes about two meters in length are used for crossing rivers in the villages. The large war canoes reach a length of up to about 20 meters. They are painted with white and red stripes and have neither sails nor outriggers. The owner hollows his canoe out with a stone axe, *si*, and adorns the prow with carvings of his ancestors or with mythological symbols. Men and women paddle in an erect position. Both sexes use iron-wood paddles decorated with human figures or stylised head-hunting symbols at the top. The blades of the paddles are carved in relief with figures representing fishes or water-ghosts. A small fire always burns on a layer of clay in a canoe. This saves the owner from having to perform the difficult task of making a new fire by rubbing rattan around a piece of wood, while he is on his way.

C. MEANS OF LIVELIHOOD

Food collection

Pounding sago, *amos*, fishing, hunting and collecting snails, grubs, crabs and caterpillars are the main activities in Asmat life, to ensure their subsistence.
The inland villages possess larger but less dense sagowoods than the coastal settlements. Pounding sago is a task for the whole family, and this process indicates the cultural place of sago in Asmat life.

Each sago palm possesses a ghost, *det*, and therefore the men cut the trees down in almost complete silence in case the ghost should be scared, run away, and take the good sago with him. The owner makes a square opening in the middle of the tree deep enough to expose the pith. He then pushes a pole two meters long made of the bark of a nibung tree, *om*, into the pith of the sago palm, withdraws it and places a little sago flour at the top of his *om* to decide whether the palm is good or not. The men clear the tree of its thorns, make a cut in the bark, and peel it off. The women then pound the marrow with a piece of V-shaped wood, with a manchette of bamboo tied with rattan to the short leg, *ambús*. Between two gutters made from the leaf of the sago palm there is a sieve made from woven rattan. The women knead the mass of fibres with water in the upper cylinder and

after passing through the sieve the sago flour condensates in the lower cylinder. They cut the sago dough into chunks of about 35 cm. length, which are then dried in a fire.
To collect grubs the men pierce holes in the bark of a cut sago tree. The beetle can penetrate the pith and lays its eggs there. Nearly two months later the trunks are split open and the grubs are collected.

The women fish near the seashore two by two or in a circular group. They use an oval net, knotted with string made of sago fibres, *jim*. The men catch fish with a harpoon, *pom*, a spear with three to six prongs, *kamem*, or with a bow and many-pronged arrows, *apán*. The whole family is engaged when the third method is used: a small river is enclosed at high tide with mats made of small strips of wood, *far*. The fish are caught in the *far* when the tide goes out.
Hunting makes a less regular contribution to the daily meal. Pigs are caught in valve-traps, or are shot with an arrow. The dogs prevent the pig from running away by biting it and the men then slay the animal with an *om*. Pig hunting is an individual affair. Communal feasts where pig eating takes place by the masses as in other regions in New Guinea, do not occur in the Asmat.
The Asmat people do not cultivate gardens. They use rain water or water from the marshes for drinking purposes and store it in bamboo stems: *bu*.

Way of life

The sago pounding pattern determines their semi-nomadic way of life. After a stay of three to six months when the sago in their neighbourhood becomes scarce, the members of the group remove to a new site within their sago territory. Frequent hostile attacks or the death of many of their people also cause the migration of a community. The daily routine of fishing and sago pounding is interwoven with a cycle of rituals, head hunting raids and attacks.

Distribution of tasks

Sago pounding, fishing with mats and rowing are tasks for the whole family. In addition, members of a family have special duties.
The wife controls the preparation and distribution of the food, and this endowes her with powerful influence over her husband. Withdrawal of his food is a frequent matrimonial reason for quarrelling. The parents and the adults receive the greatest share of the food, while later on the children share the parts left over. Children are

supposed to collect small crabs, snails and fishes. As sago is the staple food, each member of the household receives a lump of moist sago roasted in hot ashes. Fish and the proceeds of hunting are roasted over a fire. Generally speaking there are two more or less organised meals a day, one in the morning and one shortly after sunset. This daily pattern of meal times, however, is often disturbed by a change in the time of the tide suitable for fishing, or delays due to hunting. Moreover the exchange of some sago as part of nearly every reward, mutual help or transaction takes place many times a day. This custom creates continuous opportunities in Asmat life to partake of some snacks.

The men perform the rather heavy work of cutting down trees, building houses and hollowing out canoes. Their main task is to protect the women whilst the latter are fishing or pounding sago. During the evening and at night Asmat men devote their time to social and political deliberations in the menhouse (see par. d) and to the preparation and performance of their rituals.

As a result of this subsistence economy composed of food collectors, nearly every household is independent. All its members have a day completely filled with some rather heavy task. There is little trading. The people of the coastal villages require some stones from the upstream parts of the rivers for making axes and the inhabitants of the inland villages require shells from the region of the sea for their adornment. There is no kind of money and all transactions are settled by an exchange of daily utensils.

D. SOCIAL GROUPINGS

The manhouse and the family house

The manhouse, *jew*, is the centre of social life. It serves as a home during the day and at night for all unmarried men from about ten years of age upwards. Although each married man usually stays in his family house, he still has a claim to a sleeping place in the *jew*. He makes use of it, for instance, in case of marriage troubles or during his wife's period of menstruation.

The manhouse is the place for the reception of male guests from foreign villages. All rituals are organised here and take place either inside or close to the *jew*. It is the place where deliberations, counsels and plannings of tactics for head-hunting raids take place.

The bag containing the sacred objects belonging to ancestors, *erám ese*, is also stored here. The building is an extended form of the usual Asmat house. In the row of fireplaces, the central *jowse* has no owner, but serves for official and sacred purposes: *wajir*.

The group of family houses surrounding the *jew* building occupied by the husbands belonging to this manhouse, bears the same name. Thus the term *jew* can also indicate a village quarter.

Villages and regional groups

In the coastal villages the number of manhouses, ranking from three to five, is smaller than in the inland villages, where it can reach as much as fourteen. The importance of a *jew* is much greater than the influence of a village. Every Asmat man has strong feelings towards his manhouse, but the idea of a village community cannot raise much loyalty. The influence of a so-called village-chief is limited to his own *jew*. If the members of a manhouse do not agree about their position in the village or if they are divided among themselves, the *jew* may split up into two new manhouses, or some of the men may join another *jew* or even leave for another village.
The Asmat villages can be divided into three cultural groups (*Drabbe*, 244 *Zegwaard*, 473 *van Kessel* 313) each with its own dialect (*Drabbe*, 245 *Voorhoeve*, 449 *van Kessel* 313).
Groups 1 and 2 are sometimes taken together as the *Asmat-proper* (*Gerbrands* 269). Beyond their own dialect boundaries people can understand the other dialects with some difficulty. (Scheme and map: pages 40 and 41).

Manhouse, marriage and exchange of wives

The members of each manhouse are divided into two sections: *tsjewi*, the oldest group with the same name as the *jew* and *faripis*. The ideal marriage is based on fixed symmetrical relations between the two sections. A boy of the *tsjewi* group has to find a girl from among the relatives of the *faripis* members and sooner or later a man of the *faripis* section marries a girl from the *tsjewi* section. A marriage with a partner from outside the *jew*-group is possible, but some difficulties for the arrangement would be incurred.
The ideal marriage arrangement is the *perse* (*-tsjewis*) that is, a preliminary agreement between the parents of both candidates.

Villages and regional groups

1. *Downstream Asmat peoples and Asmat dialects*

4 cultural sub-groups and sub-dialects.

a. Mbisman	5 villages with 2663 inhabitants around Flamingo bay or East bay.
b. Kainak	7 villages with 2956 inhabitants in the northwest area, near Mimika.
c. Simai	6 villages, with 2950 inhabitants along *Asewetsj* and *Jet* river.
d. Mbetsjmbip	14 villages with 5146 inhabitants near the northern, *Sirétsj*, and southern, *Betsj*, mouth of the Island river, and along the *Ajip* and *Assoewe*, *As*, river.

Total: 32 villages with 13.715 inhabitants.

2. *Upstream Asmat peoples and Asmat dialects*

2 cultural sub-groups and sub-dialects.

a. Keenok or Jopmagau	13 villages with 7169 inhabitants along the upper parts of the Northwest river, *Pomátsj* and the Lorentz river, *Undír*.
b. Kaimo-group	10 villages with 1780 inhabitants upstream of the Island river *Sirétsj*.

Total: 23 villages with 8949 inhabitants.

3. *Casuarine coast peoples and dialects*

2 cultural sub-groups and sub-dialects.

a. Batia	12 villages with 4721 inhabitants along the *Fajit* river and the Kronkel river, *Cc: Dere*.
b. Sapan	9 villages with 2978 inhabitants along the Cook river, *Cc: Ewt*, and Queen Juliana river, *Cc: Kuti*.

Total: 21 villages with 7699 inhabitants.

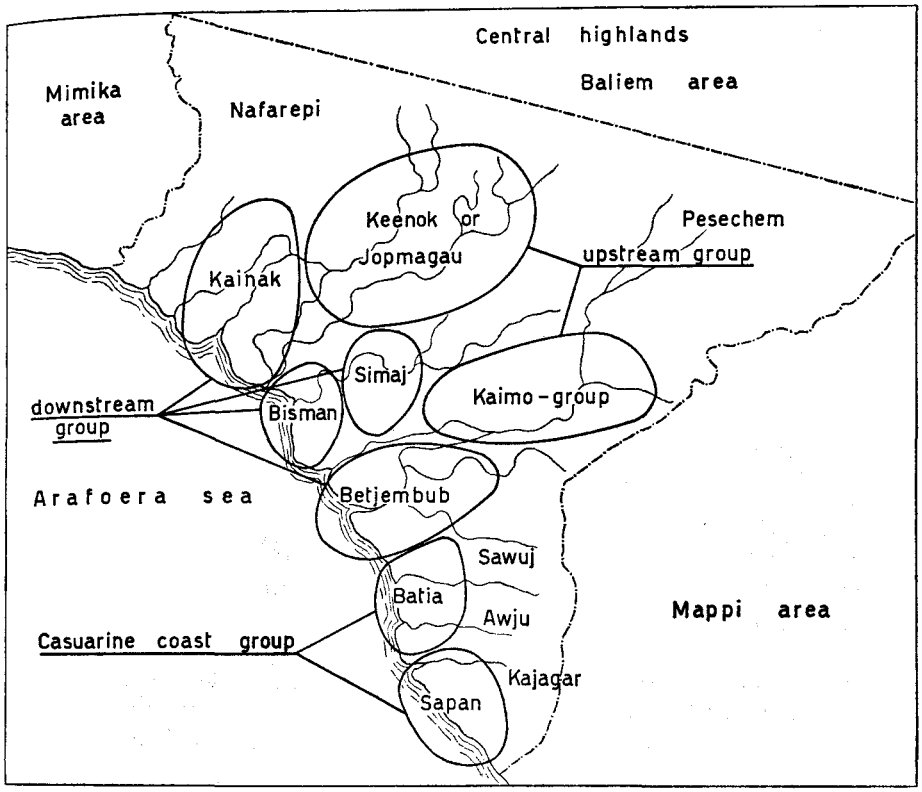
Total: 76 villages with 30.363 inhabitants. (census 1961 of the DHC, Agats).

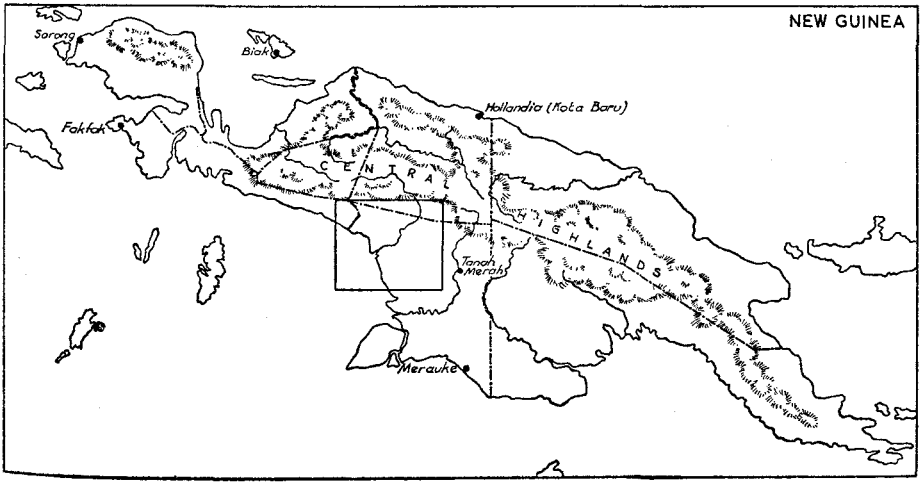
(Manhouse, marriage and exchange of wives-continued-)

As soon as the nipples of the girl start to develop, her father and her brother bring her to the fireplace in the manhouse of her future husband and announce their mutual obligations to help in fishing and in sago pounding for the benefit of both families. The girl then returns to her family house.

At the marriage ceremony some years later the young man pretends to run away and he is captured by his future brother-in-law. In her own house the bride is adorned with fibre hairs, cassowary plumes and paint. Her brother carries her on his shoulders to the family house of the husband's father. The bride then recieves the girdle, and the most essential part of the ceremony: the preparation of the sago by the bride for her husband, legalises the marriage.

ASMAT: LANGUAGES AND CULTURAL GROUPS





Next day the girl is brought to the sago grounds. Some days later the marriage gift is paid.
When one of the partners does not agree to a proposed marriage, there are two possibilities. Either the girl does not agree, and asks the man of her own choice to run away with her at night, *worwos*. A mutual agreement between the two families is generally possible afterwards.
Or the man may steal a girl of his choice against her will, *okorá*. This is a breach of the social rules and always leads to a great fight in the village.

The average age for marriage is about 18 years for boys, for girls one or two years younger. The second or third wife, however, is often a girl of 10 to 12 years of age. War leaders especially have more wives in order to strengthen their social and political relations. *Ariwitsj* in the village of *Ajam* had 10 wives, *Enakap* in *Amborep* had 17. The principal wife, *fatsjowut* manages the food and may claim to have a monopoly in sexual relations which often is a source of trouble in the relationship between the husband and his other wives: *assestjowut*. After the death of her husband the *fastjowut* remains in the *jew* of her late husband, the *assestjowut* can go back to her own *jew*, which is often a different *jew*.

In 1954 *Zegwaard* and *Boelaars* (496) found the following relations among 102 marriages studied in the village of *Sjuru*.

arrangement of marriage		locality of marriage		pattern of marriage	
perse tsjewis	46	patrilocal	76	monogamous	59
		matrilocal	13	polygynous: 17	
worowos	48	avuncolocal	6	12 men with 2 wives	24
okore	8	neolocal	2	3 ,, ,, 3 ,,	9
		other cases	5	1 man ,, 4 ,,	4
				1 ,, ,, 6 ,,	6
total	102	total	102	total 76 men with 102 wives	

Asmat people appear to have rather rigid sexual standards. Young boys and girls are watched closely. We could not detect any practices of abortion. In the village of Ajam with 1400 inhabitants there was one forced marriage in five years (295a).

Homosexual relationships are less institutionalized than among the neighbouring *Jaquai* people.
There exists a mutual relationship between two married men to exchange their wives for one night on special occasions, *papis*.

Preferably the men do not belong to the same manhouse. The women must already have given birth to a child. The relationship is contracted and effectuated by mutual consent, so it is impossible to practise *papis* if one of the men is absent from the village. After the night of exchange, the woman prepares sago for all the inhabitants in the house of her *papis* partner, who then adorns his *papis* wife and send her back with gifts. *Papis* relationships implicate family relationships, and the marriage of children of *papis* friends is not permitted. *Papis* is practised in situations of stress, either for private reasons such as disease or the building of a new house, or for community reasons such as a heavy storm or because of the visit of the yaws team of the district health centre.
In 1953 *Zegwaard and Boelaars* (496) counted 118 married men in *Sjuru*, of whom 62 had *papis* relationships. Some men had more than one *papis* friend, the total number of relationships was 77.

E. CONFLICTS AND LEADERSHIP

Daily utensils such as fishing nets or canoes are the private property of the woman or man who made them. Coco-nut trees and sago-palms fall under the category of personal possessions too. Children of both sexes and the family of the husband and wife may all inherit these possessions. Every nuclear family has the right to use certain fishing waters and sago areas within the property of the *jew*.
The main consequence of a breach of these rights is the personal insult to the owner and not the damage or theft . This humiliation always gives rise to a quarrel or to a fight between the offender and the person he has insulted, which sometimes means a repetition of mutual manslaughter between the families of both parties. As Asmat families behave as rather independent units, the community in general does not intervene in these disputes. The heads of both family groups will try to reach an agreement, but an institutionalized leadership does not exist in the Asmat society for the purpose of mediating in private affairs.
The *jew*-leader is the only outsider who has some authority to settle communal questions. His prestige is based on his personality, his achievements in head-hunting raids, on his family relations and on his ownership of fishingrivers and sago grounds.

There are only very few *jew*-leaders, like *Warsekomen* in the village of Sjuru who are able to exert a strong influence over all the manhouses in his village and even over foreign villages. As a rule the position of a *jew*-leader among the heads of families who own fire-places in the manhouse is merely that of a *primus inter pares*. We may call it an "informal leadership".

To participate in a head-hunting raid is the first stage of becoming recognised as a real warrior. To capture a hunted head raises the prestige of an Asmat man in the village. This feat is not an absolutely essential condition prior to marriage, but the man who has never seized a head, is not allowed to participate in the deliberations of the *jew*, and he has always to endure reproaches from the women for his lack of courage.

Initiation rites are practised only in the village of the Kainak group, *embaktsjem* ritual (see page 45).

In most villages, with the exception of the eastern Casuarine coast, the father usually bores a hole in the nasal septum of his children when they are about seven years of age. This practice is not regarded as a condition for fertility, as is the case in the Mimika region (*Pouwer* 378*a*) but sometimes it has been observed that analogous notions do exist.

One has to make a clear distinction between ritual head-hunting, aimed at acquiring a skull, and manslaughter for other reasons. *Van Kessel* (313) even noticed that along the *Fajit* river on the Casuarine coast head-hunting is not practised.

Manslaughter requires many victims. *Zegwaard* recorded 83 cases in one year among a population of about 5000 people (473).

Head-hunting is carried out in two forms: a major raid undertaken after detailed preparations and careful planning and a minor casual attack when a favourable opportunity suddenly presents itself. Head-hunting is not practised for the purpose of cannibalism, although the latter may occur on occasion.

Zegwaard gives a detailed description of a raid (493). He traces the following factors as motives for head-hunting:

1. instructions by the culture heroes of the Asmat people.
2. Economic demands, which in the head-hunting cult may illustrate the important role of sago as the staple food in the Asmat.
3. Fear of the spirits, which leads to a display of courage by the Asmat men as a means of expelling them.
4. Need of prestige on the part of the men.

F. ARTS

Two basic trends of Asmat culture, namely, the ancestor cult and head-hunting, find a splendid manifestation in the arts of the region: music, dancing and carving.
Singing accompanied by drums and sometimes by bamboo-horns is part of every ritual and is a daily pastime. The repertory runs from individual ballads, often interrupted by yells, via a wide range of songs for all rituals up to the most sacred *dewen*: a monologue, in which a great warrior, at the climax of the ritual enumerates the names of all his head-hunting victims. Improvisation with reference to actual facts gives a personal touch to nearly every song.
Men and women dance separately in groups. The pattern is simple and constant: remaining in the same place the dancers jerk their knees outwards and inwards, often at an increasing tempo.

The ancestor cult in dancing is reflected in the dances performed during the dedication feast of a new manhouse, *jew pokmbu*. Small wooden figures, with the elbows joined to the knees, are placed in and around the manhouse. The Asmat men now begin to dance with their elbows also touching their knees and gradually they reach the erect position. In doing so they repeat the myth of the culture hero, *Fambiripitsj*. Long ago he travelled along the coast and built many manhouses in which he placed similar wooden figures. He then started drumming and thereby loosened the elbows and knees of the wooden figures, which became the inhabitants of the manhouses.

Except for a few objects made out of bone or shell, all Asmat carvings are made of wood. They are coloured with lime, red clay and charcoal, the same paints that are used in personal adornment.

Each village has a limited number of specialized wood-carvers, well known among their own people for their artistic abilities. Working within the framework of the art-style typical of the Asmat-area, each artist nevertheless has a clearly distinguishable personal style. Though there are no sharp boundaries between regional art-styles on the Southwest-coast of New Guinea, there is reason to distinguish Asmat-art from the jerky style in the Mimika to the West and the more stiff art-style found towards the east (*Gerbrands*, 266, 268, 270).

All objects either overtly commemorate specified ancestors or else they symbolize headhunters, whose names are often given to daily utensils such as drums, blowing horns, painting vessels, axes, spears, hollowed out canoes and paddles. The enormous

carvings used in the major community rituals in particular illustrate the preoccupation of the Asmat people with their recently deceased both in their art and in their ritual life.

For the *bis* ritual the figures of ancestors of head-hunted relatives are sculptured on an ancestor pole, *bis*, to remind the villagers of their obligation to revenge them.
The *embaktsjem* ritual in the villages of the Kainak group has the same purpose, and is, in addition, also an initiation ritual. It therefore embodies two elements: to remind them of their duty to revenge and to strengthen the power of their own tribe. The sacred object, on which ancestor figures are carved, is the soul-ship, *uramon*.
The village of *Semendoro* on the Casuarine coast uses a *binut*, a snake carved of wood on which lies a human figure, which is employed for a ritual similar to *bis* and *embaktsjem*. Up to now no outsider has ever witnessed this ritual.
The *jipáj* ritual is a combination of the adoption of widows and orphans, a defence against the spirits and the actualisation of the idea of revenge. The sacred objects are not carvings, but braided masks.
Large war canoes are named after famous head-hunted members of the manhouse, *tsji mbu*.

G. WORLD VIEW AND RITUALS

The oldest man, the culture hero in Asmat mythology, which has some traits of a "supreme being", can be associated with the daily courting between the sun and the moon. Its meaning, however, is not yet clear. The monthly waxing and waning of the moon are frequent motives for many myths on the origin of mankind and for current conceptions of fertility.
All myths depicting the descent from the father of the clan, possibly related to the oldest man, have common themes, with individual variations for each village (*Zegwaard* 482).

The father of the tribe descended from heaven or came from a region far away abroad. Generally the origin of the Island river is mentioned as the site of his arrival. From there the clan-father came down to the coast, chose the territory for his descendants, taught them sago pounding and gave instructions about the war which he endowes with magic attributes. The tribe-father is still in contact with his present-day descendants through contact persons, *Namber-ow*. The Asmat people believe that all newborn children are ghost-children from this clan-father, and because the father has the right to name his children, he does so by whispering their names at night to the *namber-ow*.

The world is crowded with spirits. Some groups can be distinguished more or less clearly (*Zegwaard* 482 *Voorhoeve* 448).
The first group, *ji-ow*, comprises the clan-fathers, the owners of the sago grounds and the fishing rivers.
The second group is really personified in trees, *os bopán det* especially in the waringi tree and the iron-wood tree, in all kinds of animals, and in the whirlpools of the rivers.
The third group are the souls of the people who died recently, *dambir-ow*. Shortly after their death they may return from *safan*, the world behind the sea. They then exert a strong influence over their relatives on earth, but after some time they disappear. The souls of women who died in childbed and the souls of head-hunted men who do not disappear after some time, are much feared for *dambir-ow*, as they constantly trouble people who are alive in the Asmat.
The *ji-ow* are not so malicious. One has to show respect for the owners of the resources of the daily food, and to contravene the rules for sago pounding and fishing is to court the risk of changing these *ji-ow* into animals like snakes and crocodiles which can punish the transgressor. Generally, however, there is some familiar relationship between the clan fathers and the Asmat people.
The second group is very malicious, as its members interfere in day-to-day life with trickery, teasing and bantering. Most of the taboos are related to this group.
The spirits of people who have recently died are most dangerous because they can decide upon the death or sickness of living Asmat people.
Ritual life in the Asmat is mainly devoted to the task of appeasing the spirits of these ancestors. All Asmat villages celebrate the major rituals in a cycle of feasts that last two to four years. For special occasions there are independent rituals without a cyclic character.

Although the cyclic character of the rituals can be recognised quite clearly, it should be noted that actually social reasons are often the determining factors. A foreign village may challenge a manhouse to repay the feasts and sago gifts of the former.
Arguments involving prestige may arise between various manhouses in a village concerning the question as to who has to organise a feast. In both situations a *jew* may have to organise a ritual, for which the manhouse is not yet prepared, according to the ritual cycle. When neighbouring villages celebrate a feast with the object of strengthening their forces and arousing feelings of revenge, it is clear that all the other villages in the region will have to respond with the same kind of ritual.

The following rituals have a cyclic character:

a. *bis mbu* and *embaktsjem:* ancestor pole and soul ship
b. *jipaj:* masks
c. *tsji mbu:* war canoes
d. *jembes pokmbu:* war shields
e. *jew pokmbu:* new manhouse

The following rituals take place occasionally:

a. *ndow mber:* the head-hunting raid and feast
b. *dambir pokmbu:* death ritual for a great war-leader
c. *buman:* a peace and reconciliation feast
d. *tsjesér jiwi:* rebirth and adoption of adults.

We have already pointed out that a reminder of the duty to seek revenge for the dead, combined with a reinvigoration of one's own powers, are important elements in all rituals in order to appease the spirits of the ancestors.
As the *ji-ow*, the tribal-fathers, control the fishing grounds and the sago areas, one can easily understand that sago plays a major role in all rituals. The pounding of sago is an intrinsic part of every ritual, and its distribution is one of the most difficult of social problems, requiring much diplomacy and a thorough knowledge of inter-human relations, The growth of sago grubs is a special feature of many rituals.

The significance in the daily routine of sago is institutionalized in some ritual customs which form a part of many feasts:

a. *an pokmbu*, the manufacture of sago trays.
b. *firao*, the manufacture of grub baskets.
c. *pu mbu*, the manufacture of grub trays.

Presenting and receiving sago are frequent events in everyday Asmat life, which presumably are based on their ritual role. Besides many observations that every act of assistance and every gift presented to Asmat men requires a reciprocal reward sooner or later, this rather institutionalized custom of frequent sago exchanges may be an indication that the principle of reciprocity can to some extent be traced to be one of the elements of Asmat culture.

Nearly every Asmat man bears some special relationship to his ancestors, depending on the place of his birth, the state of the tide at that moment and on all kinds of

emotional events occurring in his life time. All these occasions require special individual obligations to the spirits.

We think therefore that this emphasis on the individual is a characteristic feature of Asmat culture. We have already indicated the rather independent position of every household in the Asmat community (page 43). Individual traits can also be recognised in the art of carving. (page 45). We may also refer to the informal leadership (page 44), the variability in the locality of the marriage, and the high frequency of the *worwos* (tab. page 42). We cannot agree with some observers who consider the Asmat culture as loosely structured or who are puzzled by the many exceptions in the pattern of this culture. Although more facts must necessarily be collected to support our hypothesis, we feel nevertheless that Asmat culture has in fact a rather rigid structure, but one can only understand the rather amazing details of the pattern by studying the factors that result from individual relationships and obligations.

The above description is not intended as a comprehensive analysis of the Asmat culture.
We feel, however, justified in concluding that Asmat culture constitutes a fairly well integrated system of traits and traits complexes; the core of which is the following interconnected values or valued objects:

1. reciprocity,
2. revenge,
3. the spirits, especially of those who recently died,
4. individual variability.

H. HEALTH, DISEASE AND DEATH

As this is a medical study, we will conclude by considering separately the Asmat practices and concepts concerning health, disease and death.

Conception and birth

When the spirits of the tribal fathers, *ji-ow*, have decided that an Asmat woman is to become pregnant, they send one of their spirit children down to earth. This child arrives in the red glow of the setting sun from over the sea; Asmat women who desire to have children therefore often spend their time on the seashore in the evening.

The invisible spirit child follows a woman to her house and hides in the roof. There it feeds from the stored sago, that is to say, from the spirit of the stored sago. Hence the total amount of sago is not diminished. If the woman then eats the sago, she becomes "pregnant", this term being interpreted that all the circumstances are now favourable for her subsequent development. Shortly afterwards her nipples become darker, and her navel rises. Some time later the spirit child descends from the roof and enters the woman by her vagina, *nam-pi*, the spirit is in the body. (*Zegwaard* 471, 473, *Voorhoeve* 448).

The spirit children often quarrel among themselves and box each other's ears with wooden branches. Bruises produced in these fights, can be seen later, after birth, as the birthmarks of the human infant.

The father has no essential function in the actual conception. His fundamental task is to see that the *nam-pi* matures into a full-sized infant at birth. Frequent sexual intercourse is necessary to provide definite forms to the various parts of the body. This process takes place in the same order as when the various parts are sculptured on an ancestor pole, *bis*, arms, feet, eyes and the body openings.
It appears to be undesirable for a pregnant woman to eat jumping fishes or animals with long nails, large teeth and hooks for fear that these qualities should pass into the infant, and cause difficulties during the delivery *(Zegwaard* 481).
She is not allowed to eat the ends of the sago-lumps, otherwise the umbilical cord of the unborn child will snap. (*Voorhoeve* 448). In the hospital in Agats we never experienced difficulties regarding the nutrition of pregnant women.

Childbirth, *jispetiw*, takes place inside or under the family house (*Bisman* and Casuarine coast), or in a small delivery house at some distance behind the family house (*Simaj* group), or in a special built annexe to the family house (*Kainak* group) or in the jungle. These are not entirely regional characteristics.
When delivery takes place in the family house, the parturient woman sits in a squatting position with her arms around a horizontal pole or around the neck of her mother who stands at the back of her. The mother's sister, sitting in front, lays the infant on sago leaves. It is customary to massage the abdomen for a rapid delivery of the afterbirth, *tsjowom*. If there is some delay, the cord, *tsjowom bip*, can be fixed to the floor of the house, otherwise the child might re-enter and return to its ancestor father.

For similar reasons the cord is cut after the placenta is born. The young mother states her preference for the utensil to be used for this purpose. A bamboo knife means a taboo for fish, a shell for crustaceans. The placenta is considered to be the younger brother of the child already born. Placenta and cord are just thrown away. The delivery is often even more informal than this casual description suggests.

The husband may bring all his weapons and paddles to the *jew*, and he may remain there until his child has been born, but there are no couvade customs. There is a taboo against sexual intercourse, *ew*, shortly after the delivery.
In one instance a young mother lingered on in the Agats hospital, as she was not allowed to use a canoe for five days after her delivery. Often the women left the maternity hospital already on the first day after delivery.
Such experiences, together with the observations on pregnancy taboos, could never be combined in a single concept. We feel that private motives, the relationship of the individual with the ancestor of his family group and his personal instructions given to the contact persons, are more decisive factors in the behaviour during pregnancy and lactation, than general community taboos.

Suckling usually starts on the first day and is given whenever the child asks for it until the child is three or four years of age. After some months the infant receives some prechewed sago and fish. The mother carries the infant in a doubly folded mat. When the child can sit up, it is placed in the basket on the back of the woman and later it just stands at the back of its mother's hip.
Shortly after birth a child is not yet regarded as a real human being because it is still weak. Getting rid of young children, because of malformations for example, or because they are infected with yaws or because their mothers have died in childbed, has not therefore many emotional implications. As a rule twins are not killed. Generally, however, young children are well cared for, as otherwise they might decide to return to their real spirit parents, because they are still children of the *ji-ow*. For similar reasons children have no names at first and after some months they receive a ghost name selected by the spirit of the tribal father and communicated to the contact person. The latter informs the child of the whereabouts of his personal spirit family along rivers and in sagogrounds, and his individual obligations to it. The parents give their child its first human name when it is about two years of age.
It is not uncommon for children to be given away. It may happen that one family will give a child to another household, for example, to provide a nurse for it when the mother is unable to nurse it or to balance the number of girls in the two sections

of the *jew* in order to prevent difficulties with marriage arrangements in the future. A child may, however, move to another village in accordance with a peace settlement or a reconciliation ritual. Such children are regarded as equal members of their new families, and it is a grave mistake to inform these children of their original parentage.

Hygiene and nutrition

Generally the Asmat people have a positive regard for cleanliness. They wash rather frequently in the rivers. Only very small children and sick people do not bathe. It is a breach of Asmat etiquette to enter a house or a canoe with dirty feet. Both children and adults can often be seen enthusiastically looking for lice on each other's heads. The houses are never cleaned, waste is thrown out through the doors. Defaecation takes place anywhere in the jungle at some distance from behind the houses. Both children and old people, however, may squat on some protruding floorpoles at the back of their house. They emphatically frown upon anyone who urinates in the river or near the marshes in the jungle where the people collect their drinking water. Menstruation, *tsjen es*, does not give rise to taboos. During those days the women wear a small bundle of soft fibres of the sago leaf under their girdle. They clean their girdles fairly regularly and after some months they make new ones.
Circumcision is practised neither on boys nor on girls. The consumption of certain kinds of food is prohibited for many reasons. Generally one person or a small group of people are involved in the prohibition; exeptionally the entire *jew* or village may be involved. Nutritional taboos only exclude some kinds of fishes, some land animals or certain kinds of fruit, from the daily menu, but the state of health is never endangered by a long lasting absolute prohibition of one of the staple foods.

Ubi is taboo, because the stupid culture hero *Ewer* came on earth alongside the ubi plant and then was born the wrong way via the urethra instead of the right way via the vagina. In the village of *Owus*, an individual person named *Owus* is not allowed to eat the sword-fish, *sowot*, because of the myth on the origin of this village according to which the culture hero *Owus* had a series of troubles with a *sowot* (*Zegwaard* 481). After one's first visit to a strange river, it is advisable to refrain for some time from eating several kinds of fish, connected with the mythological origin of this river (*Voorhoeve* 448).

Disease and death

Adult men, facing natural death, stay in the family house, surrounded by a circle, of mourning and crying relatives. Members of his family support the dying person, give him drinking water or cool him down by fanning him with air and sponging him with water. Some observers (295b, 464) noticed a desire to remove the people outside the village before death had occurred. We observed several cases where the patient was duly mourned in the house until he had passed away.
After death the relatives continue to cry and mourn for many hours. The family may place objects which serve ritual functions such as nosebones and bracelets on the corpse. Penis suckling was observed in the hospital. The women remove their girdles and wallow in the mud. The relatives often cut of the hair of their head and wear a bracelet of knotted fibres.

In the coastal villages of the Asmat-proper ordinary men and women are buried in a grave in front of the manhouse and small children are just put up in a tree. Women who have died in childbed are carried away into the jungle because of fear. Mighty warriors are wrapped up in pandanus-tree mats and placed on a wooden stand in front of the *jew*. Once the corpse has decayed, the head is removed, adorned and preserved in the manhouse. There is no evidence that the fluid from the corpse is used in any way.
The inland villages of *Ajam* and *Komor* deposit their corpses along the banks of small rivers outside the village. The inhabitants of *Saowa Erma* place the corpses of their leaders in a waringi tree, the common resting place for the spirits.
The Casuarine coast people place their corpses, wrapped up in the leaves or bark of pandanus tree, on a scaffold in front of the family house. When all the soft tissues have decayed the head is removed and without any adornment is kept in the family house.

The Asmat people have no institutionalized training for medical practice. The members of the family perform any daily medical practice in their household. Furthermore every village has some *namer-ow* to advice them in more difficult medical cases. It is doubtful whether these contact persons are regarded as real human beings. Seven *namer-ow*, five women and two men, were counted in the village of *Sjuru* (*Zegwaard* 481).
A wide range of different kinds of practice is employed for curative care. Patients with a severe fever have to sit in the draught of the doorway, sometimes cold water is poured over their head by their family. A rattan string tied around the head is a common cure for headache. Both symptoms are often treated by smearing the body

with clay. A sago grub is put in the ear for earache. The favourite remedy for all sorts of complaints is to scarify the skin with a glowing shell or with a burning piece of wood, *tsjuman*: on the cheek for toothache, on the breast for a cough, and on the abdomen for diarrhoea. Massage with nose wax, *binduw*, or with some species of leaves or nettles, *atsjuw*, is widely practised against painful muscles. Wounds, *noso*, are treated by covering them with sago leaves, fastened with a string of rattan. Sometimes ashes are put on the wounds. War wounds and ulcerous yaws on the flexural side of joints are treated by binding together tightly the two parts near the joint until they are completely united. The extraction from the body of intrusive objects, such as small bones or stones, is one of the most frequently practised curative procedures.
This brings us to black magic, *aráw*, the ability to inflict disease, which is considered here because it affects the state of well being of the people. Many oral reports about black magic in the Asmat are difficult to check, but some cases treated in the Agats hospital provided reliable evidence and clinical information (see also chapter 5 pag. 141). Black magic is usually practised by married women, but in the village of *Atsj* we found evidence that an old man also possessed this ability. The woman who practises black magic contemplates for a long time on the combination of ingredients that she is going to use (a man's nail, fibres of a girdle, human or animal faeces, the intestines of a snake, frog or pig). She puts all these ingredients into a small basket in her house. The woman then waits for the appropriate moment to inflict her magic power. She therefore makes a peep-hole in the front wall of her house. In the meantime the offender, for whom the black magic is destined, is informed about it. On an occasion when he passes the woman's house, she takes a magic invisible bow and arrow and shoots the black magic at the offender through the peep-hole. The latter experiences this blow and begins to feel weak and to suffer. Within a few hours, a few days or occasionally a month he dies. There is no cure for this and men afflicted by black magic have tried in vain to flee to another village. Reports regard flight as an idle attempt, to evade the inevitable fate. *Sowada* (415) states that black magic gives rise to a feeling of fear and insecurity and places a heavy strain upon Asmat society, but he looks upon it also as a powerful social regulating factor which maintains the balance between forces, which could not be controlled otherwise.

All the facts outlined about medical practice can be viewed from two aspects of Asmat culture.

The oldest conception, formulated for the first time by *Zegwaard* (471, 472), considers disease as the temporary absence of the soul, usually the soul of the abdomen. Every human being possesses six souls; two in the arms, two in the feet, one in the abdomen and one in the head. Occasionally we heard patients in the consulting room complaining that: "my belly is empty" or "my soul has run away from my belly". This conception may explain why the complaint most frequently heard: *jak-asasak*, which means that my belly is hurting me, often indicated diseases which according to western standards could only be located, elsewhere in the body. Thus the Asmat custom of treating headache by binding rattan strings around the head may be a combination of empirical remedy for pain and an attempt to prevent the soul of the head from running away.

Except in the case of diseases of small children and old people, every illness is probably attributed to the influence of the spirits. In particular, the spirits of people who had recently died lure the souls of the living to run away. When a soul leaves, the patient feels "heavy" and he will try to persuade his soul to come back. He may do so in a diplomatic way by offering gifts of food to the trees where-according to information received from the *namer-ow*-his soul is staying temporarily. Or he may demonstrate his ferocity in a more aggressive way by shooting arrows or by placing a spear in front of his house. This "heavy" feeling corresponds rather well with the descriptive term *ndam*, that is to say, generally sick (in contrast with *ambup*: to feel feverish). When the soul returns it gives rise to a feeling of a "blow" or a "warming up". The fires in the houses are immediately stirred up. Death is looked upon much the same as disease, but in this case the absence of the soul is not temporary but permanent. The main point in treating a patient is therefore to appease the ancestral spirits, who have lured the soul away, in an attempt to persuade them to let the soul return. If the soul does not return, the patient dies. To appease the ancestral spirits is the task of the *namer-ow*. The contact persons change the names of the sick man, and moisten him with the sweat of their arm pit, *japeres*, in order to deceive the ancestral spirits.

Patients who were seriously ill for a long time, therefore suffered from a long absence of their soul. During its wandering the soul may have visited the world of the ancestors and may have seen the culture heroes. This circumstance considerably enhances the social prestige of the patient (*Zegwaard* 480).

This concept explains how the fatal outcome of black magic is understood. The magic objects penetrate the body with the magical arrow, and cast out the soul. The

intruded objects remain inside the body, and cannot be removed from it. The expelled soul is therefore unable to return, and the patient dies.
The tremendous fear of intrusive objects may explain the widely employed practice of extracting objects from the body, for which service the contact persons are paid quite handsomely. In the case of black magic, however, this removal is impossible.

The second point of view is based on a balanced male and a female element as a fundamental for physical life. *Ji* or *tsja* is associated with sperm, *bi* is associated with the female sexual emission. Both elements have to be in a state of balance: *tsjesar* which, according to *Drabbe*, means something very sacred, more than an ordinary taboo (245). This balance can be upset by intrusive magic objects. *Eyde* (257) associates this balance with a red colour and with heat. If this state of *tsjesar* is not attained, a disease occurs, or at least an unfortunate situation arises. Tiredness is due to a lack of *ji*: *dam jipi*. Neonates are *dam jindit* weak. *Eyde* (257) gives an example showing how excess of *ji* resulted in aching of the joints. Treatment is by massage in order to push the *ji* out of the body. He suggests that fever in men may be an excess of *bi* whilst feverish women have an excess of *ji*.
The relationship of *tsjesar* with heat, brings us to the contrast cold-heat. *Zegwaard* (471) noticed that a warm penis and a warm vagina meant good fertility, whereas if both were cold the chances of fertility were unfavourable. He observed the custom of poking up the fires when the soul returned to a sick man and recovery began. Our observation of the treatment of feverish patients by pouring cold water over them and placing them in a draught, might fit in with this conception. There is a line of thought which connects heat with evil spirits. An angry, warm man is dangerous to small children. Contact persons are named *ban ambup*, warm handed (*Voorhoeve* 448). The conception of diseases as due to an absence of heat, may explain the Asmat custom of burning the skin to cure diseases, apart from the practical reason of probably inducing contrast pains.

tarafofof (lizard)

CHAPTER III

history of contacts with the asmat

Until the beginning of the twentieth century the Asmat region had remained unknown to the rest of the world. The area lay outside the great trading routes. No foreign government was interested in it, nor had any settlers arrived as yet. Quite by chance some explorers paid a short visit to its coast. During his voyage to Australia the Dutch trader *Jan Carstensz* on 10. March 1623 observed some casuarine trees on a site probably near the present-day Cookbay. He saw naked people with pierced nostrils and a curling gourd or a snail-shell on their penis. The English trader *James Cook* landed at the same place on 3. September 1770 during his voyage around the world. Some sixty hostile men threw lime at him and forced him to a quick retreat. The Dutch naval officer *Kolff* anchored here on 13. May 1826 and was given the same reception. The present-day Eastbay (D.Oostbaai) was discovered from the sea in 1828 by *van Delden* during the first Dutch exploration of the whole coastline.

I. THE GREAT EXPLORATIONS 1904–1913

English complaints about the head-hunting raids carried out by the Marind-Anim people from the southern frontier region of Nederlands New Guinea into British New Guinea (at present Territory of Papua) led to the establishment in 1902 of the government post in Merauke. Governmentofficers began to explore the southern coast of New Guinea. On 7. October 1904 Eastbay, the centre of the Asmat region to-day, was visited for the first time.

Within the next years five great expeditions set out for an intensive survey of the region.

The Royal Netherlands Geographical Society (N.: Koninklijk Nederlands Aardrijkskundig Genootschap) sponsored the South New Guinea Expeditions. (N.: Zuid Nieuw Guinea Expeditie) in 1907, 1909-1910 and 1912-1913. The Government organised the Military Exploration (N.: Militaire Exploratie) from 1908 until 1913. The activities and results of these expeditions have been mapped out briefly in scheme 1.
The object of the South West New Guinea Expedition was to explore the snow mountains and the regions in the south-west plain. According to *Lorentz* (326, 332) the objectives of the first and second South New Guinea Expeditions were not primarily to reach the snow mountains, but were aimed at the scientific exploration of the regions near Eastbay. Actually however the main interest in all three expeditions was to find a way to the snow mountains. The study of the coastal regions formed a very minor part of their work. The last scientific expedition intended to find a short cut from the south coast to the northern coast of New Guinea, but it was not successful in this task. The Dutch Government instructed the Military exploration to study and map out the rivers; to look for connections and short cuts in the waterways, and to collect data about the inhabitants, their groupings and numbers.
The establishment of Merauke is usually given as the reason why so many expeditions now suddenly started their exploration work in New Guinea after centuries of neglect. The new ethical trend in colonial policy, which called attention to the outer provinces of the Indies, probably explains some of the more fundamental motives. Moreover the organisation of the various expeditions provided some political and moral justification for the presence of the civil administration in New Guinea.

All these expeditions collected an immense number of data in the fields of geography, petrology, botany and zoölogy, but the population itself received little attention. The fact that no interpreters were available in completely unknown regions made it difficult to get in touch with the inhabitants. The very superficial meetings that did take place resulted in an impression that the inhabitants were most hostile. Some unfortunate firing contacts followed, especially during the military exploration, notwithstanding the most explicit instructions to avoid such incidents. *Helding* and *Branderhorst* (291) made an ethnographic survey, but their reports were probably lost. *Feuilletau de Bruyn* gives a fairly extensive account (260) of the people and he compiled the first Asmat vocabulary which, however, did not facilitate contact with the population.

SCHEME I – HISTORY OF THE CONTACTS WITH THE ASMAT

The first contacts and the great explorations (1623-1913)

year	*date*	*explorers*	*region visited*	*remarks*	*literature*
1623	10 Mar.	Carstensz	Cookriver	lands with "Pera" and "Aernem"	459
1770	3 Sept.	Cook	Cookriver	lands with "Endeavour"	238-459
1826	13 May	Kolff	Cookriver		459
1828	30 May	van Delden		observes Flamingobay from his boat Triton	405
1881	3 Jan.	Oldenborgh	Casuarinecoast	attempt to land	459
1904	7-14 Oct.	Posthumus Meyes de Rochemont	Flamingobay	SWNG. *First visit to Flamingobay*	316-372-376-377-389-395-438-451-466
	18-19 Oct.		Kasteelriver	SWNG	
	16 Dec.	Kroesen H. v. Herwerden	Flamingobay Lorentzriver	Ass. Divisional Commissioner	376-389-395
1906	4 May	Hellwig H. v. Herwerden	Assuwits, and Lorentzriver	Governmentpatrol	294-300-339
	6 Oct.-25 Oct.	idem	Flamingobay Casuarinecoast	idem	291-301-327
1907	3-17 Apr.	Hellwig	Northwestriver Hellwigriver	idem	292
2-12	May	idem	Kasteelriver Torpedobootriver	idem	293
	3 May-25 Oct.	Lorentz Nouhuys Versteeg	Lorentzriver Hellwigriver Reigerriver	*First* SNG *expedition*	232-326-327-329-356-363-396-410-440-
1908	21 Mar.-11 May	Gooszen Hellwig Heldring Branderhorst	Lorentzriver Resimountains Reigerriver Assuwitsriver	Military Exploration First ethnological survey by Heldring and Branderhorst	272-273-274-275-276-277-278-335-368-411-463
	14 Jun.-8 Jul.	Branderhorst	Kasteel-Bloemen-Northwestriver.	Military Exploration	287-288-289-290-435-463

year	*date*	*explorers*	*region visited*	*remarks*	*literature*
1909	2 Sept.-17 Mar. 1910	Lorentz Nouhuys Habbema	Lorentzriver Snowmountains	*Second* SNG *expedition*, Snowmountains reached for the first time	215-327-330-331-332-333-357-358-359-360-361-362-394.
	8 Nov.-11 Nov.	v. Weel	Islandriver	Military Exploration	454-455-463
1910	Jan. Mar.	Hellwig	Kampongriver	Government	251
1910 1912	19 Jan.-22 Jan.	Schaeffer	Island-Braza-Kolff-Wildeman-Vriendschapriver	Military Exploration, Linguistic and Ethnologic survey by Feuilleteau de Bruyn	229-260-261 262-263-397-407-463.
	22 Jan.-3 Febr.	idem Vliegen	Bloemen, North-West-, Tjemara-, Cocq d'armand-villeriver	First missionvisit together with mil. Exploration	256-397
1913	7 Sept.-19 Apr.	Franssen Herderschee Pulle, Hubrecht Sitanella	Lorentzriver Snowmountains	*Third* SNG *expedition*, first malariasurvey by Sitanella	265-304-381-382-383-409-422.
	28 Jul.-14 Aug.	Chaillet	Islandriver Dujusieriver Cookriver Kronkelriver	Military Exploration, extensive visit to Casuarinecoast	439
	16 Aug.-26 Aug.	Gooszen	North West- and North East river	Military Exploration	439

Abbreviations:

SWNG = South West New Guinea

SNG = South New Guinea

From a medical point of view, the results are rather disappointing too. Thirteen physicians were primarily engaged for the care of members of the expedition. They were interested mainly in ethnographical data, zoology and botany. *Koch* (316) unfortunately did not include the Asmat people in his extensive survey.

Römer measured 37 people along the North West river, and made an anthropological study, completed by *van den Broek* of 89 skulls (394, 232). *Sitanella* made a mosquito survey, reported by *Swellengrebel* (409, 422).

The report of the military exploration provides an extensive medical description, based on a memorandum by *Feuilletau de Bruyn*. It turned out to be based on observations along the northern coast of New Guinea only (263).
The medical studies reflect the rather technical interest of western medicine in D.countries during the turn of the century. Thus it is impossible, in 1963, for example, to get a clear idea about the prevalence of yaws among the population at the beginning of the century. The disease is quite easy to diagnose, and its prevalence was 12% in 1956. It would have been of epidemiological interest to know what the situation was like some forty years earlier. The literature provides no data, and information about this question is variable (263, 363, 407).

One of the most experienced explorers of the region concludes that in spite of a long stay in the area very little real knowledge had been collected about the Papuans along the rivers. (*Nouhuys* 358). On reviewing the great amount of literature, however, and its great accuracy, one is impressed by – and one feels the utmost admiration for the great task accomplished with so much enthusiasm in these remote regions without modern transportation and without facilities for communication.
These circumstances probably restricted the interests mainly to economic and material items.

2. NEW EXPLORATIONS, THE FIRST GOVERNMENTAL POST, WORLD WAR II. 1936-1945

For about twenty years, from 1913 until 1936, the Asmat region disappeared from the limelight of official interest. Some traders visited the island river to buy paradise plumes. Fire contacts and gifts of coconuts and chickens left an ambivalent impression. In 1926 the Government and the Catholic Mission settled down in the Mimika region. Frequent raids by the Asmat peoples into this neighbouring area caused great unrest. Police expeditions into the Asmat were not always successful. In 1933 a patrol officer was murdered when he brought back some Asmat captives from the jail in FakFak.

The English explorer *Lord Moyne* visited the Kasteel river and the Kampong river in 1935. He collected 29 skulls, and the anthropological analysis of his material by *Cave* is the only medical research during this period (237, 350).
The question still arises: why were the great explorations at the beginning of the century not followed by the establishment of a government post to ensure a more permanent contact with the population of the region? Apart from the outbreak of World War I, and the economic crisis of 1929, the most likely reasons must be the poor economic prospects that the region offered. It is probable that the growing international political and economic interests in New Guinea, especially by Japan, stimulated the renewal of the Dutch government's attention in 1936.

SCHEME 2 – HISTORY OF THE CONTACTS WITH THE ASMAT

The period after the great explorations until the end of world war II

year	*date*	*Asmatpeople visiting regions in the neighbourhood.*	*Persons from the outerworld visiting the Asmat*	*remarks*	*literature*
1922			Wirz	Lorentzriver, ethnologist	461-462
±			Rugebregt	Torpedobootriver,	
1925				Patrol officer	228
			Roche	Paradisebirds-plumage trader	350
1928	july	Attack Mimika (Mukumuga, Omawka Otokwa, Inawka)			
	28 Oct.	Mimika river			278
1929		Atoeka		attack	217
1930	2 feb.	Atoeka		attack	217
	7 apr.		Vink and Fleiter	punitive expedition from Fak-Fak	217
	3 + 4 jul.	Atoeka		attack	217
	sept.		Military force	punitive expedition, 17 prisoners to Fak-Fak	217
1931	May	Atoeka	Ismael bin Hambaly	attack + counter attack	

year	*date*	*Asmatpeople visiting regions in the neighbourhood.*	*Persons from the outerworld visiting the Asmat*	*remarks*	*literature*
1933	April		Ismael bin Hambaly + van Hespen	return with 17 prisoners, Bin Hambaly murdered with three policemen	217
	July		Military force	Punitive expedition	217
		Ajamvillage to Mimika		Fled in fear for inter-village wars	336
1934	27 Sep.	Mimikariver		attack	217
	Dec.		Lord Moyne Roche	North island-river	350
1935	4 June	Mimikariver	Military force	attack counter-attack 43 prisoners	371
	6 July		Military force	Punitive expedition 91 prisoners, 1 dead	371
	Dec.		Lord Moyne	Bloemenriver, island-river, Anthropological expedition	230-231 237-350
1936	27 Juli-		Tillemans	Mission patrol	354
	2 Aug.		Bounier	Preparation Oil Company. aero cartography	209
			NNGPM (Oil Cy).		
1937	Dec.-		Cator	Bloemenriver, administration patrol	355
	Jan.				
	18-27		Salverda	Agricultural survey	398
	Jan.				399
	Apr.-		Miningcompany	Gold exploration	279-280-
	June			Lorentzriver	281-282- 283-423- 424-425
	16 May-		Munster	Mission patrol	
	24 May			Islandriver	370
	Aug.-		Mining Company	Gold exploration	423-424-
	Nov.			Islandriver	425
	Sept.-		Wettstein;	Government patrol;	336-355-
	Nov.		Maturbongs, van Ravenswaay Claasen	selection site forfuture government post in the region	386

year	*date*	*Asmatpeople visiting regions in the neighbourhood.*	*Persons from the outerworld visiting the Asmat*	*remarks*	*literature*
1933	April		Ismael bin Hambaly + van Hespen	return with 17 prisoners, Bin Hambaly murdered with three policemen	217
	July		Military force	Punitive expedition	217
		Ajamvillage to Mimika		Fled in fear for inter-village wars	336
1934	27 Sep.	Mimikariver		attack	217
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1935	4 June	Mimikariver	Military force	attack counter-attack 43 prisoners	371
	6 July		Military force	Punitive expedition 91 prisoners, 1 dead	371
	Dec.		Lord Moyne	Bloemenriver, island-river, Anthropological expedition	230-231 237-350
1936	27 Juli-		Tillemans	Mission patrol	354
	2 Aug.		Bounier	*Preparation* Oil Company. aero cartography	209
			NNGPM (Oil Cy).		
1937	Dec.- Jan.		Cator	Bloemenriver, administration patrol	355
	18-27 Jan.		Salverda	Agricultural survey	398 399
	Apr.- June		Miningcompany	Gold exploration Lorentzriver	279-280- 281-282- 283-423- 424-425
	16 May- 24 May		Munster	Mission patrol Islandriver	370
	Aug.- Nov.		Mining Company	Gold exploration Islandriver	423-424- 425
	Sept.- Nov.		Wettstein; Maturbongs, van Ravenswaay Claasen	Government patrol; selection site forfuture government post in the region	336-355- 386

year	*date*	*Asmatpeople visiting regions in the neighbourhood.*	*Persons from the outerworld visiting the Asmat*	*remarks*	*literature*
1938		Ajam back to Asmat			336
			Hardenberg	fishery survey	285
	Apr.		Cator, Boender-	government patrol	228-386
	Oct.		maker	foundation Agats post	228
1939	Apr.		Rugebregt		
	Oct.		Cator, Boender-maker, Haar	Government patrol	236, 284
1940			Maturbongs	Succeeds Rugebregt	457
1941	14 Jan.-		Wegner J. G.	First local administrator	
	13 febr.			of the Asmat	457
1942			Japanese forces	Agatspost raised	473
1943	29 Sept.-		Tol	Trout Australian	427
	30 Oct.			mil. expl.	431
1944	Jan.		Japanese and Australian forces	Battle in the islandriver	248, 413
	16 Febr.-		Tol	Trout 2, Austr. expl.	427-432-
	19 May			Post VI north. island-river.	467
1945			Austr. forces + Maturbongs	Post VI raised; collecting of Japanese guns.	481

In 1936 exploring patrols organised by the administration and the Catholic Mission and aero-cartography sponsored by an oil company were the first signs of a more lasting interest. The government sponsored an agricultural survey and studied the possibility of fishing on a commercial scale.

The first police post along the Lorentz river, established to protect the prospectors of a mining company, was partially washed away by a freshet and partially destroyed by Asmat aggressiveness. The search for gold bore trifling results.

In 1938 the transfer of the government post from Japero in the Mimika area to Agats provided the government with the first permanent base in the Asmat region. One year later teaching was commenced in schools in the villages of Agats, Ewer, and Ajam. There were not as yet any provisions for medical care. In 1941 the appoint-

ment of the first local administrator marked the beginning of administrative independence in the region. One month later the threat of World War II prompted him to leave.

The Agats post closed down when the Japanese forces occupied Mimika in 1942. The Asmat now became a no-man's land. The Japanese carried out some patrols into the region, and to serve as an example, after treason by the inhabitants of *Ajam*, killed 22 men in the village of *Sjuru*. In 1943 the Australian forces explored the Asmat from their base in Merauke, and established post VI along the island river. Japanese boats clashed with Australian planes in January 1944. Meanwhile inter-village wars were most vehement, resulting in at least a hundred victims.
At the end of the War, therefore, Australian forces patrolled the region in order to collect the guns supplied to the people by the Japanese. Post six was then withdrawn.

Reviewing this period, one cannot but apply to the Asmat region *Pouwer's* statement concerning the Mimika: "The exertions of the Dutch Government before World War II are fragmental and extensive, due to the lack of means and sufficiently trained staff" (378b).

3. AFTER WORLD WAR II. PREPARATIONS FOR DEFINITE CONTACT. 1945-1954

After World War II the Administration did not immediately re-establish the government post in Agats, but now the Asmat people took the initiative for contacting the outer world. Fierce inter-village wars induced some chiefs to ask for Governmental intervention, while some villages fled from their more powerful neighbours and resettled outside the Asmat region.

The chiefs of *Sjuru* and *Ewer* went to Mimika in 1947 and asked for Governmental help, as they were afraid that their villages would be completely exterminated. Hence the LA *Scheele* made the famous first post-war patrol from Mimika into the Asmat (402). The inter-tribal wars continued, however, and some 6000 Asmat peoples fled terror-stricken from the coastal villages to the Mimika region and remained there from 1948 until the end of 1949. The population of *Amborep* fled eastwards to the mouth of the Digul river, and settled there till 1951. Several government officers tried to restore more peaceful conditions.

SCHEME 3 – HISTORY OF THE CONTACTS WITH THE ASMAT

The period after world war II until the permanent establishment of a Government post

year	*date*	*Asmatpeople visiting regions in the neighbourhood*	*Persons from the outerworld visiting the Asmat*	*Remarks*	*literature*
1946	Aug.	Inaoga		attack	481
1947	March	Sjuru and Ewer to Mimika		Ask for government protection in intervillage wars	402
	21 Mar.–13 Apr.		Scheele	Patrol officer Mimika; settles intervillage troubles	402
1948	3 sept.–18 Apr.		Meeuwese Verschueren	Missionaries, rediscovery Queen Julianariver	250-340-341-346-353-436-437
	23 Oct.–18 Nov.		Meeuwese Verschueren	Imoro region	250 342-343-344-347
	Dec.	6000 people to Mimika		fled in fear for intervillage wars (coastal-group)	217
	Dec.		Maturbongs P.	Patrol Officer, Q. Julianariver	322
1949	13 Jun.–24 Jun.		Meeuwese Verschueren	Missionaries. exploration Julianariver	321
	Oct.		Meeuwese Verschueren	exploration Kronkelriver	321
	Nov.	6000 people back to Asmat			477
1950	Aug.		Paliama Zegwaard	Policemen, Missionary. Exploration Kasteelriver	323-477
	Dec.		Zegwaard	With Seremoek, Oilcompany contracts labourers	428
1951	June		Zegwaard Weling	Mission patrol	
	Oct.		Meeuwese Verschueren	Missionaries, Cookriver	221
			Maturbongs	Patrol Officer, Cookriver	322

year	*date*	*Asmatpeople visiting regions in the neighbourhood*	*Persons from the outerworld visiting the Asmat*	*Remarks*	*literature*
	Oct.	Amborep back from Digul river to Asmat	Eibrink Janssen, Zegwaard	Amborep fled some years before to Digulriver in fear for intervillage wars	224, 323
1952	Jan.		Meeuwese Verschueren	Patrol to Mouth of Cookriver	
	Febr.		Zegwaard	First 5 nonqualified teachers appointed in Asmat	477
	Apr.			5 teachers more in the Asmat	477
	Oct.			Oilcompany contracts labourers	306-323
	Oct.		Boelaars Zegwaard	Missionaries; preliminary study for first ethnologic survey	496
1953	3 Febr.		Zegwaard	Establishment catholic missionpost in Agats	
	Apr.		Oilcompany	Oilcompany, aerocartography	
	June		Verhey van Wijk	Establishment of Lumber trade company Imex in Agats	
			Maturbongs F.	Patrol Officer, exploration Cookriver (mouth)	420
	26 Oct.	Amborep fled to to Digoelriver		For fear for intervillage wars	419
	Oct.		Crocodile-hunters	Clash with the people of the village of Otsjanep	
	22 Nov.-		Spijker	Divisional Commissioner	417-418
	28 Nov.			Preparation for permanent Governmentpost in the Asmat	419
1954	Jan. / March / May		Palit / Priem	Policeofficers, preparation permanent government post	
	Sept.		Koops	Police post in Amborep	

year	*date*	*Asmatpeople visiting regions in the neighbourhood*	*Persons from the outerworld visiting the Asmat*	*Remarks*	*literature*
	Nov.		Scheele	Establishment Government post	
CASUARINECOAST CONTACTS UNTILL ESTABLISHMENT GOVERNMENTPOST HERE					
1955	Febr.		Priem, Engels,	Otjanep	
	Sept.		Jansen, Toorop		
	Dec.				
1956	2-28		Koch, v. Kessel,	DHO Kepi + Mission-	
	March		Meeuwesen	aries, Medical preliminary survey	317
	15 Apr.			First teachers Otjanep (1 day)	313
	13-28		Oilcompany	Survey along coaststrip	313
	Oct.				
	Nov.		Vorst	Yawscampaign in Otjanep	450
1957	4-29 Apr.		Visser	Experimental yaws campaign	442-443-444-446
	24 Oct.-		Visser	Initial Treatment Yaws	210-211-
	2 Dec.			campaign	214-216-442-444-446
1958	19 Oct.		Maturbongs F.	Patrol Officer, establishment Governmentpost Cookbay	212-213

The western agencies gradually found their way back to the Asmat. The missionaries *Meeuwese* and *Verschueren* explored the eastern areas. They contacted the population along the Casuarine coast and along the Kampong river, and (re) discovered the Queen Juliana river. In 1950 many Asmat men enthusiastically grasped the opportunity of seeing the outside world by accepting a one year labouring contract on the main station of the Oil company in *Sorong*.

Zegwaard attained the greatest importance during this period because of his ethnological studies and his contacts with the Asmat people.

This Catholic missionary remained in the neighbouring Mimika area from 1946 onwards. In 1950 he started his patrols into the Asmat territory. In February 1953 he settled in Agats, re-established the post there and remained until 1955. His main purpose was not the usual missionary work, but to make a thorough study of the life of the Asmat people. Although he was not a professional ethnologist, his notes and studies are most accurate and of great value. Even to-day, in 1963, the data collected by *Zegwaard* are still the most complete and almost the only ones available. Although he was working for the mission, he most generously put the results of his studies at the disposal of all workers seriously interested in these people. He was the only explorer who volunteered practical suggestions for the daily field work of the administration, the health department and everyone concerned. A slightly moral pre-occupation in his notes hardly affects the importance of the admirable results of his studies.

In 1952 ten Papuan teachers began educational work in village schools. In March 1953 *Verhey van Wijk* founded the trading company Imex in Agats, which was afterwards transferred first to *Saowa Erma*, then to *Jamas*. The lumber trade was a valuable contribution to the economic development of the Asmat. A few Chinese crocodile hunters worked in the region, but they had some unfortunate fire contacts with the inhabitants.

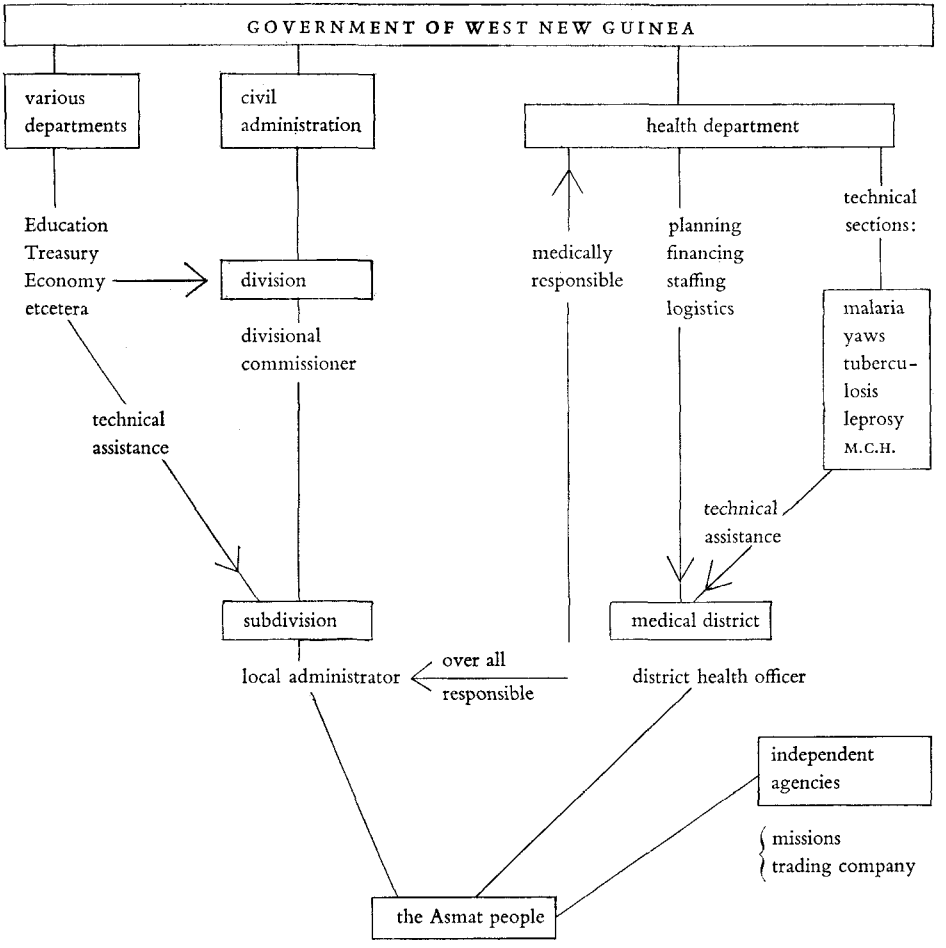
There was no pacification whatsoever, notwithstanding occasional police patrols from abroad. In November 1954 the first post-war LA arrived and the Asmat-proper became an independent administrative unit. The most south-easterly part, the Casuarine coast remained completely ungoverned until October 1958.

4. THE ADMINISTRATIVE SETTING OF THE HEALTH WORK

Organisation

This case study is centred on the health problems connected with the local contact of the Asmat people with the outside world. For the purpose of illustrating this contact, a detailed description and critical analysis of the top level political trends and the particulars of the administrative organisation outside the Asmat area (*Vogel*, 125) are irrelevant. This outline therefore describes the governmental setting as it was,

in relation to the history of the contacts made with the Asmat people. Only such general trends and administrative structures are mentioned, which might have helped to elucidate the local process of introducing western medicine into the Asmat, and might have influenced local considerations and decisions in the course of contacting the Asmat people.



The civil administration of West New Guinea has divided the country into six divisions with a divisional commissioner over each division. The latter directs the work of two to five sub divisions, which have a local administrator in each subdivision. The local administrator, usually a University Graduate, has overall responsibility. He is assisted by patrol officers, and a local technical and administrative staff.

The health department divided the country into medical districts with a district health officer in each district. A medical district usually corresponds with a civil administrative subdivision. There is no equivalent to the civil administrative divisional commissioner in the medical organisation.

The overall planning of the health work, the financing, staffing of medical and administrative personnel and pharmaceutical logistics are transmitted directly from the Director of the Health Department through the channels of his department to the DHO in the medical district. In this regard the DHO is completely independent of the civil administration, especially of the local administator.

On the local executive level of his medical district, the DHO has overall authority to coordinate the instructions and proposals of the Departmental Head and the Heads of the various sections of the Health Department. The DHO has to arrange centrally organised plans and campaigns as smoothly as he can and adapt them to local circumstances. The DHO reports monthly to Head Office and includes his own suggestions for central planning. Biennial visits of the Departmental Head to the DHO, biennial medical conferences of all the DHOs in each administrative division and study trips to the Head Office of the Health Department complete the mutual contacts between all medical officers in the health service.

The DHO is subordinate in rank to the LA, as the latter is responsible for all the activities in the subdivision. The LA obviously delegates strictly medical matters to the DHO, but all other problems require constant mutual consultation. Planning of patrols, proposals for long-term medical development, the mental health aspect of all kinds of acculturation problems come up for mutual discussion.

In the Asmat region the centre of all activities is Agats, which is the seat of the LA, the DHO, and the Catholic and Protestant missions. A police station, two boarding schools a Chinese shop and the houses of the government officers and some of the crocodile hunters complete the picture. Agats is not an Asmat village, but a central post built some 500 metres outside the village of *Sjuru*. Agats depends on Merauke, 320 sea-

miles to the east, for its supplies, mail and radio communications. The Divisional Commissioner in Merauke is the head of the LA in the sub-division of Asmat.
Apart from official consultations with the LA, the DHO often discusses problems connected with the development of Asmat with members of the missions and the trading company. In the villages themselves he often consults with schoolteachers on the problems of the community concerned.

Targets and tasks

The Government of West New Guinea aimed at achieving the political, economical, cultural and medical development of the area with the greatest participation of the population.
For the control of major diseases the Health Department stressed preventive measures over curative care. Close co-operation with all development agencies was one of the main targets of health policy in order to achieve proper integration of the health work (*Bierdrager*, 225).
The DHO in the Asmat had the following tasks:

1. To establish a health service for the population of the Asmat which should be as complete as possible, bearing in mind the local conditions. The extent of this work and the problems involved are discussed in the following chapters.
2. To assist in the training-programme for Papuan medical assistants devised by the Health Department.

After the completion of their primary school, Papuan boys received a five year resident training-course in the Central Hospital in Hollandia. The curriculum included the principles of anatomy, physiology, epidemiology and pathology, practical training in hospital work and a traineestage in the sections for malaria, yaws, tuberculosis, leprosy and mother and child health care. During the fourth year the pupils had a course of practical work in an outpost hospital to adapt their knowledge to jungle conditions. Agats participated in this fourth year training course and the organisation of this educational programme was considered to be of the utmost importance with immediate priority after task I. This study is not concerned with the problems connected with this training course.

3. To provide medical care for all the newcomers in the Asmat: government officers, members of missions, and private patients. This work was considered to be of minor importance and was always subordinate to the first and second tasks.

Besides the daily out-patient clinic in Agats, conducted either by the nurse, the medical assistant, or the doctor, complete facilities were available for all kinds of emergency surgery including a small blood transfusion service. The dentist paid a biennial visit to Agats. The Agats out-patient clinic had neither separate hours of attendance for newcomers and autochtones nor did it have priority rules. As there was a trained nurse-midwife in attendance at the out-patient clinic, scheduled DHO patrols were never cancelled to attend deliveries of the wives of newcomers. The Papuan medical assistant and the DHO spent about 150 days a year on field patrols. The remaining days were devoted to curative care in Agats, in administration and in planning.

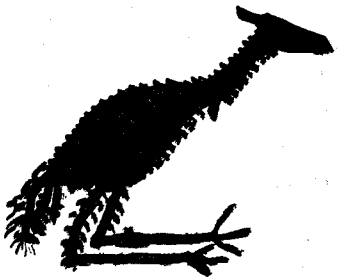
The local position of the DHC

The health service was part of the governmental organisation and health work was an integral part of the overall development. Locally the DHO was subordinate to the LA.
Nevertheless the DHC aimed at a certain degree of independence and it enjoyed some freedom in its activities both towards the population and towards the administration. The DHO was anxious that the people should not identify the DHC with the civil administration or with the missions. Such an identification could be a serious drawback in gaining the peoples' confidence in the health work.

Administrative rules required that every government patrol in the dangerous Asmat region had to be accompanied by some policemen. In accordance with the suggestion of the DHC however, escorting policemen were strictly forbidden to deal with any complaints or lawsuits, or to settle quarrels during DHC patrols except in cases of emergency. These patrols were always announced in advance by a message sent to the village chiefs in which their help was sought for the survey of the inhabitants of their village on the day scheduled. As policemen always had to accompany the DHC team, the DHO was faced with the serious problem that the launching of mass campaigns offered them the temptation of making use of enforcements. Chapter four will give one example where the DHC was not able to solve this problem in a favourable way. But almost always the DHO held the view that an authoritative policy could never in the long run lead to lasting results in health work. Rivalry between the adherents of the Catholic and Protestant missions had to be tolerated, and sometimes the DHO had to exercise all his diplomatic skill in order to make it quite clear that the DHC occupied a completely neutral position.

In the government service civil administration was organised according to rather authoritative principles. In these circumstances there might not have been sufficient

opportunity or enough moral freedom might have been lacking to discuss controversial issues freely. Under these conditions the DHO felt obliged on the grounds of mental health to warn against certain proposals or directives of the civil administration which might have had dangerous after-effects on the population. The paragraph dealing with western ambiguity will illustrate this preference on the part of the DHO to retain a rather independent position towards the civil administration.



pi (cassowary)

introduction of integrated rural health

Description of the process in the asmat

I. TWO YEARS OF MEDICAL ORIENTATION AND THE FIRST EXPERIMENTAL CAMPAIGN. NOVEMBER 1954-OCTOBER 1956

The situation

The establishment of a government post in Agats and the appointment of the first LA mark the beginning of this period. The catholic mission and the lumber company had already settled there one year previously. The Asmat was not as yet an independent medical district, the health department operating from outside the region. Medical officers from other district health centres in other administrative subdivisions were in charge of the Asmat. During this period nearly all activities were limited to the Asmat-proper; the Casuarine coast area had not as yet received attention.

General trends

The policies advocated by the various authorities now making contact with the Asmat people were not completely harmonious (233, 311, 421).

The civil administration was engaged in establishing basic facilities: the building programme of the government post and administrative arrangements. No basic survey was carried out nor was a pilot project set up in order to study the possibilities for future development. The attitude towards the population was rather neutral. The LA held the view that first of all the people had to get accustomed to the mere presence of the civil administration at the government post. There was no firm active contact with the people nor was there any firm intervention in head-hunting cases. The steadily growing number of cases of unopposed manslaughter reached a climax in the raid on 29 April 1956, when the inhabitants of *Ajam* killed 29 visitors from

Jipajer. The administration now suddenly took such vigorous action that for years the consequences constituted a serious mental health problem in the Asmat.
The catholic mission advocated a more rapid development by means of school education. By 1954 they had already commenced teaching in 17 mission schools. With regard to conversions the mission favoured a rather extensive contact with a great number of adherents in many villages rather than a more intensive approach over a limited area.
The protestant mission, the Evangelical Alliance Mission, settled in February 1956. Their missionaries aimed at representing a Christian way of life in the Asmat. They conceived their mission to be to set an example to the Asmat people of a new attitude and a new form of conduct. Their approach was less extensive compared with the work of the Catholic mission. The protestant missionaries preferred to exercise an intensive influence over a small group of people.
The lumber company Imex tried to enlist the co-operation of the people in cutting down trees. The possibility of obtaining all kinds of iron articles raised much enthusiasm among the people. The Asmat men worked quite near their village, so they did not lose touch with their relatives for any length of time. The inhabitants of various villages were invited by the company to work in turn. Between these working periods the people had ample time to fulfil their own social obligations.

Medical activities

Some curative service was given by a medical assistant, members of the two missions and the lumber company. The basic surveys, however, made health work their cardinal point. These studies made a rough geopathological outline of the region, and the planning of the health department was based on the data collected.

In January 1955 *Laumans*, (324) DHO in Kokenao, visited Agats, *Sjuru* and *Ewer*. He noticed that there was a yaws prevalence of 10%. The figures for malaria were collected by the naval officer *Hölsscher* (299). A spleen rate of 85% and a parasite index of 85% among the population favoured the conclusion that hyperendemic malaria prevailed. At this time the DHO in Kepi, *Koch* ,was in charge of the Asmat. In March 1956 he carried out a patrol through completely unknown regions along the Kampong river and on the Casuarine coast. Visiting 20 villages he found a yaws prevalence of up to 13%. In an at random collected sample of 775 persons in all the villages visited no cases of leprosy were diag-

nosed but 39 cases of malaria and 13 patients with elephantiasis were seen. A favourable impression was gathered concerning the nutritional state of the population (317).

These first professional contacts in the health field disclosed a high prevalence of yaws and malaria and drew attention to the occurrence of elephantiasis.

General trends

In June 1956 the policy of the civil administration changed to a more positive approach towards the population. Extensive patrols enabled better contact to be made with the inhabitants of nearly fifty villages. The government together with the Catholic mission sponsored the sociological studies by *Zegwaard* and *Boelaars* (496).

These workers advised that the authority of the village chiefs should be supported as pacification now undermined the traditional leadership of the chiefs exercised during wars. The study directed attention to the function of the manhouse as a strong social unit in the villages. Medical workers were advised not to dispense all treatment free of charge. It was thought that a slight payment for some kinds of medicine, especially for injections, would correspond with the Asmat custom of giving a reward for every gift or service.

Medical activities

The health department accomplished two tasks which were essential for future development: the first experimental campaign against yaws and the drafting of an overall plan to establish an independent District Health Centre in the Asmat.
Since 1955 Netherlands New Guinea has been engaged in a mass campaign of treatment against yaws. The agreement with the World Health Organisation stipulated treatment of the whole of the population which was under the administration's control. Moreover, as the basic surveys had indicated that there was a high prevalence of yaws in the Asmat, a campaign in this area appeared to be necessary, although it was doubtful whether it could be carried out satisfactorily. The question was raised whether it was possible to set up the complicated organisation in a region which quite recently had come into contact with the outside world and whether it was possible to gain the people's co-operation, both of which were necessary for such a campaign. High officials in the civil administration gave a negative reply to these questions.

Nevertheless, in October 1956 *Kranendonk*, head of the yaws control section of the Health Department, and *Thooft*, the LA, planned the campaign carefully. The health work could derive profit from the policy of the administration which had recently changed to a more positive approach towards the inhabitants of the region (225).

The experimental campaign was an outstanding succes. The attendance was estimated at nearly 98%. The prevalence yaws proved to be 12%, about the highest figure found in West New Guinea (319, 320).
At this time the DHO in Kokenao, *Laumans*, had taken over the supervision over the Asmat region. During the first experimental campaign he conducted an extensive malaria survey, compiled the first vital statistics and constructed a population pyramid. His major merit lies in the blue-print that he drew up for the future development of the medical activities in the Asmat.

Lauman's recommendations for the health work in the Asmat included (324):

- a plea to establish an independent medical District Health Centre in the Asmat.
- a proposal to staff this DHC with one DHO, 1 nurse, 1 medical assistant and a few welfare workers.
- an outline to extend the yaws campaigns, and in close connection with it, to build up the curative service gradually.
- an exact plan for a building programme to include a hospital and housing for its staff and for transport facilities.

2. 1½ YEARS OF PREVENTIVE MEDICINE. FURTHER INVESTIGATIONS OCTOBER 1956-APRIL 1958

General trends

Development advanced along well coordinated lines of policy. The civil administration tactfully opposed the rude way of life of the Atmat people. The Government forester surveyed the region to make an inventory of the timber available. The hunting of crocodiles was stimulated and promised favourable prospects. The oil company embarked upon a geological and seismic survey resulting in a pilot drilling in *Jaosokor*, which proved unsuccessful. The lumber company exported to 2360 tons in 1957. In that year the Catholic Mission opened 5 schools with fully qualified

teachers. The linguist *Drabbe* compiled the first Asmat dictionary and Asmat grammar (245, 246) and Protestant missionaries wrote the first Asmat primer (392).

Medical activities

Expansion of medical work, to keep pace with the general development, now became urgent. Extension of the curative and preventive services, together with more basic surveys preceded the establishment of an independent DHC.

For budgetary reasons and due to insufficient housing, a DHO was not available immediately. In October 1956 a fully qualified nurse was appointed to work under the supervision of the DHO in Kokenao. She provided curative services at the post in Agats and did a good job in conducting some yaws surveys. Following the example of the *Veeger's* (123) project in Merauke with village welfare workers, the nurse in Agats became busily engaged in midwifery care. However the activities of this nurse could hardly be integrated into the socio-economic development of the region, as she was not authorised to plan any health policy.

The initial treatment survey of the yaws campaign was completed by January 1957 and was followed by a partial re-survey. Two difficulties now emerged, which illustrate the difficulties of health work within the framework of an overall development.

1. The yawscampaigns were operated from Merauke, that is to say, far from the Asmat region. It was extremely difficult to plan medical work ahead and to arrange transport facilities according to schedule. Great difficulties were encountered in continuing the re-survey campaigns which were so necessary, with the result that fewer people attended the re-surveys.
2. As the Asmat was not as yet an independent medical district, the yaws campaigns had to rely upon the civil administration to provide the facilities needed, and the campaigns were accompanied by the LA and some patrol officers. As the civil administration had introduced western legal procedures to deal with manslaughter it became clear that when the people saw the arrival of their yaws team, accompanied by officers representing the civil administration, they felt embarrassed, feared judicial retribution, and therefore ran away into the jungle.

Meanwhile these yaws campaigns added further contributions to the clinical picture of the region: *De Vries* conducted a blood group survey in *Sjuru* (364, 452), and *Vorst* found clinical evidence of tuberculosis in *Ewer* and in *Biwar-on-sea* (450).

During this period the Casuarine coast was still ungoverned and untouched by any intensive medical activities. The unexpectedly favourable results of the experimental yaws campaign in the Asmat-proper, now induced the Civil Government to propose a yaws campaign in the ungoverned Casuarine coast. It was felt by the Administration that a yaws campaign might serve as a good preparation and introduction for the establishment of a government post which was soon to follow (443). *Visser* conducted an experimental campaign here in April 1957. In order to make good contact only yaws patients were treated. The reaction of the population was mixed: cheering enthusiasm, as well as great fear were encountered. This pilot campaign was followed later that year by a mass treatment campaign (452).

3. FOUR YEARS OF INTEGRATED RURAL HEALTH MARCH 1958–FEBRUARY 1962

A. THE START IN 1958

The situation

In March 1958 the Asmat became an independent medical district. The first DHO, *Visser*, together with a Papuan medical assistant and a nurse, who had already worked for eighteen months in the region, made up the staff. An out-patient clinic was started in a small building in Agats, but patients could not be admitted as in-patients. The DHC had no transport of its own, to reach the villages in the region intersected by many rivers. In previous years the nurse had provided some curative services and had stimulated midwifery care. The yaws campaigns were started successfully but there was now a delay in extending and intensifying their scope. Some villages had just recently come under the Administration's influence. The result was pacification, which always implied more frequent reciprocal visits between the inhabitants of the villages. As the group of villages that had recently been contacted by the Administration had not had an initial mass treatment for yaws, there was serious risk

of reinfection of the people living in villages already treated. The yaws campaigns had become insufficiently intensified, due to organisational problems in previous years which had resulted in a delay in implementing the re-survey scheme in some of the villages.

General trends

A difficulty arose due to a somewhat changed outlook on the part of the administration. The LA laid great emphasis on the importance of pacification and the permanent settlement of the villages in their own territory. Transportation for this purpose received priority. Coco-nut trees were imported into many villages, but a well-planned socio-economic development scheme for the whole region was not judged to be urgent. Anxiety about the *jispár atakam*, i.e. the habit of completely unfounded whispering and intriguing by the Asmat people, contributed to the view that a more individual contact with the Asmat people was not as yet possible. The administration therefore considered that a yaws campaign was rather premature.

Medical activities

The main object of the DHO was to make up for arrears in the yaws campaign. He encountered many problems due to the policy of the LA with regard to priorities and mutual difficulties over transport facilities.

During his 9 month's term in the Asmat, DHO *Visser* conducted a complete resurvey of 56 villages and an initial treatment survey of 12 villages, the total number being 23,746 of persons examined. Data on spleen-rates and parasite indices were collected in the villages *Sjuru*, *Ajam* and *Jamas*. Palpation of the spleen with the person being examined lying down, caused many complaints among the people which seriously hampered the work afterwards.

The DHO was surprised to find that the women were rather anxious to come to the hospital for delivery. They were rather less inclined to entrust patients who were seriously ill to the care of the DHC. For both reasons the DHO had a small ward built in the style of an Asmat manhouse near to the out-patient clinic building. The people would feel quite comfortable there sitting around the small fire-places.
Inter-village suspicion was often a reason for not coming down to Agats. To meet this

objection the nurse paid monthly visits to the villages of *Ewer*, *Jepem*, *Per* and *Ajam* to hold out-patient sessions.
Following the advice of *Zegwaard* and *Boelaars* in their social study (page 77) DHO *Visser* tried to introduce a system of small payments for out-patient clinic service. It is probable that the attendance at the out-patient clinic decreased as a consequence. The attempt to introduce a payment scheme failed, because the policy was not continued in the 2 month interval between *Visser's* leave and the arrival of the author.

B. 1959-1962; THE EXPANSION

General trends

Some years earlier *Pouwer* had already observed in the neighbouring Mimika area that in their contact with the incomers the attitude of the people passed through the following phases: enmity and cautious rapprochement, goodwill inspired by a strong desire for western goods, a certain disappointment and passive resistance to the stranger and finally resignation to the immigrant's permanent presence, resulting the development of a native ideology and practice of co-existence of two ways of life (378,c).
The new LA *van der Schoot* had this fact in mind when he proposed a new approach to the Asmat people. He felt that the caution of the inhabitants had been surmounted. It was now necessary to maintain their good-will and to prevent the situation the people might become disappointed. Frequent patrols and extensive deliberations with the village chiefs fitted in with the policy of maintaining continuous contact with the population in order to overcome any distrust which might arise. In the administration of justice the LA refrained from enforcing methods and from too much police help. More gradually he tried to gain the people's co-operation, to ascertain their opinions and to find a bridge between western view and their conceptions about law and justice.
As the Asmat people were confronted with many new ideas and values, there was a serious risk of creating a mental vacuum when these new conceptions were weighed against the traditional Asmat standards. The civil administration therefore stressed

the importance of a firm social-economic development with the greatest emphasis on the cultural problem raised by pacification.
Some of these problems will be considered here in connection with their medical consequences.

a. Social-economic development

The housing programme

Originally the Asmat people had led a semi-nomadic wandering way of life. The members of a group lived in houses of very fragile construction for a few months, and then left these huts in order to settle on a new site. Now the government advised the people to build permanent villages. Such a settlement was thought to be essential for close contact with the administration, for establishing a school-system and for initiating agricultural projects. Many villages had indeed found a permanent settlement in their territory. As the houses had to serve then for a much longer time, the administration launched a better housing programme and stimulated the building of stronger and more solid types of houses.

The old fashioned houses had floors and walls made of sago leaves, whereas the new houses were designed to have floors constructed of a kind of bark, *gagar* and walls of *gaba-gaba*. For *gaba-gaba* the midrib of the sago palmleaf is stripped of its pinnates and then cut into lengths.
Apparently there were no reasons to fear that this proposal would impose too heavy a task on the population: the neighbouring *Awju* people lived in almost the same physical environment and traditionally built this type of house.

From a medical point of view this plan seemed worthy of a trial. Malaria was apparently frequent in this area, so a malaria control programme might well be considered here with the next few years.
The building of a good type of house, fit for insecticide spraying, would be necessary, as a preliminary phase in the contemplated malaria control programme.
The programme was launched with much enthusiasm early in 1959 and continued until the end of 1960. In the villages where a teacher or a missionary tactfully used his influence remarkable results were obtained. In many villages, however, successful

implementation of the plan was prevented by the lack of a sufficient civilian staff to help and supervise the scheme.
During the implementation of the programme a second disadvantage became evident. The DHO noticed that the old-fashioned houses were not only easy to build, but also quite easy to repair. It was much more difficult to build the modern house and if great care were not taken wide cracks would soon appear in the walls and floors, which rendered the new houses much colder than the old ones. Another factor which made things even worse was the fact that the inhabitants of many villages moved from the inland to the mouth of the rivers; partially this was suggested by the administration, partially it was the result of their own initiative, because in consequence of the governmental pacification policy the people became less frightened and had no need to hide upstreams of the rivers. On their new sites they had better opportunities for contact with ships passing nearby and better trading possibilities. But the houses in the coastal villages were much colder than those more inland particularly at night during the monsoons, when the full force of the storm blew straight from the sea into the houses.
After two years the DHO concluded that in these circumstances the new houses offered *greater* risk of bronchial infections and pneumonias than the old fashioned houses. The medical disadvantages of an apparently sound social economic development programme had become clear.

Village health centres

In connection with the social-economic development the DHO considered the desirability of establishing two village health centres, (D. *buitenpolikliniek*) in the boarder region of the Asmat-proper.

A village health centre is a simple structure staffed with a qualified full time Papuan medical assistant (I.*mantri*). He provides curative services to the people of a group of villages around his centre and supervises the preventive services and the health education in his region. A VHC is an organic functional part of the DHC, and corresponds with the conception of the term "sub-centre" as defined by the WHO (135).

Several motives contributed to the final proposal of the DHO to build a VHC in the villages *Jamas* and *Atsj*.

1. Many villages were situated at a rather great distance away from Agats. This circumstance made it difficult for the inhabitants to come over to the DHC for treatment. Moreover many people hesitated to make journeys past more or less hostile villages. A VHC in the boarder region would meet these objections.
2. The 1959 yaws re-survey in the villages of the *Kainak* group revealed an enormous reduction of the disease. Several village chiefs stated plainly that they would prefer regular visits by a medical assistant at out-patient clinics to the annual yaws surveys which were rapidly decreasing in popularity, because – as they said – "there were no yaws more". A VHC could satisfy these requests made on behalf of the population.
3. The favourable results achieved by the yaws surveys suggested that within a few years yaws control might pass into the phase of consolidation. In that phase the annual surveys would have to be replaced by facilities for close supervision and prompt treatment of any new cases that might turn up. A VHC would meet these requirements and fit in with this conception.
4. The lumber company Imex had settled in the village of Jamas. The economic uplift and the possible occurrence of occupational emergencies required a VHC.
5. It was rather difficult to reach the village of Atsj from Agats. It was therefore not easy for the DHO in Agats to maintain continuous supervision over the villages around Atsj. Moreover examinations during the yaws surveys suggested that a less favourable health condition prevailed here. A VHC could be of help in both these circumstances.

These arguments both on medical grounds and on social-economic considerations supported the proposal for the establishment of the two VHCs.
The civil administration, however, preferred to build a VHC on the Casuarine coast. The first Governmentpost was established here in October 1958. One year later, while the decision about the VHC was under consideration, the local patrol officer on the Casuarine coast was still busy with the building programme, which included the erection of the post and the construction of an air-strip.
It was therefore impossible for him to explore the region throughly and make good contacts with the population. The Divisional Commissioner now thought that a VHC on the Casuarine coast would help the pacification of the area. The same concept of medical work as a preparation for or as an aid in pacification had contributed to

the organisation of the yaws campaigns in 1957 on the Casuarine cost area, which at that time was completely ungoverned.

The budget allowed for the building of two VHCs, but there were proposals for three VHCs: in *Jamas*, and *Atsj*, both in the Asmat-proper, as favoured by the DHO; and on the Casuarine coast as advocated by the Divisional Commissioner. Actually the choice had to be made between *Jamas* and the Casuarine coast.

The problem could be phrased as follows: A choice had to be made: either to build a VHC in a fairly advanced village in the Asmat proper in order to extend in quite a natural way the medical work in response to somewhat "felt needs", or to make a start in the almost ungoverned Casuarine coast region in order to assist general pacification work.

The views of the DHO with regard to the location of a health centre were guided by intrinsic medical values and needs, which, indeed were the criteria which dominated the health work. It is true, of course, that to bring these values and needs into effect, medical undertakings should fit in with the overall plan of development. In this view, however, it was hardly appropriate to make use of extrinsic medical values, with insufficient medical justification, so that health work should serve as a political pacemaker.

To establish a VHC in *Jamas* would be in accordance with medical needs; to establish it in the Casuarine coast would satisfy merely political considerations.

Medical arguments against the Casuarine coast proposal were found in the experiences of the Yaws campaigns which had been started here two years before. The outcome of the second re-survey in 1959 was disappointing, both in the prevalence of yaws and in the attitude of the population. It transpired that the campaign arrangements in previous years had been less tactful. The attendances had been insufficient, many cases of yaws were not treated, so that now in 1959 the infection had spread again. The population was very much afraid of the staff of the DHC. The DHO therefore did not expect to achieve much succes here even from expensive curative help. In 1959 the DHO proposed a new approach to the yaws campaigns. He hoped to gain the people's confidence by adopting a most gentle and tactful approach in the preventive work. If this better mutual understanding resulted in a successful implementation of the yaws campaigns and in a low incidence of yaws and if, in the meantime, the government succeeded in establishing good contact with the people, the time would then be ripe to start curative services in the Casuarine coast.

The development of the yaws campaigns on the Casuarine coast between 1959 and 1962 was exactly according to the above mentioned expectations in 1959. This outcome will be discussed on page 107.
The arrival of a missionary doctor on the Casuarine coast solved the controversy regarding the curative services in this region.
The VHC in *Atsj* was opened on January 10th 1961, whilst *Jamas* received its VHC on December 11th 1961.

Nutrition

During the surveys in previous years all the health officers judged the nutrional condition of the Asmat people to be fairly satisfactory. The wandering population could find enough sago and fish in their area throughout the year. Hunting provided them with some additional food. Taboos disastrous in regard to nutrition, were thought to be non-existent. The Administration and the Health Department were greatly concerned however in case the social-economic development might cause unfavourable changes in the nutrition of the Asmat people. The reason for this concern may be illustrated with some examples.
The people had now settled in permanent villages. The number of sago trees available in their close vicinity became smaller compared with the former situation in which the population wandered from one place of settlement to another. The ritual culture of sago grubs brought this question of the supply of sago trees to our attention. The culture of sago grubs requires some tens of sago trees for each person. The drastic cutting down of these sago trees for ritual purposes might diminish the number available for daily nutritional use. The LA asked the DHO whether the food supplies available might eventually become insufficient for an adaequate diet for the people. The LA and the DHO therefore discussed this problem with many chiefs in various villages. It transpired, that the people themselves had "recognised" this problem much earlier than the administration and the health department. With some astonishment over the naive questions by the doctor, the village chiefs explained that the sago trees surrounding the village were used only for their daily food. The people made canoe-trips lasting one to two days to reach the areas especially designated for the ritual growth of sago grubs.
In some instances settlement in permanent villages gave rise to nutritional problems. Many people from downstream villages had now resettled in villages along the coast.

During the monsoon, when storms often raged, it became dangerous or well-migh impossible for the population of these resettled villages to travel by canoe over the rough sea in order to reach their sago grounds.

The up-stream village of *Manep* moved to a new site within the area of the villages of *Jipajer* and *Munu*.

The people did this, so that they could share the economic profits from cutting down trees for the lumber company. The inhabitants of the village of *Manep* of course, had no rights to cut down the sago trees in the woods of the latter villages. Their own areas, near their previous site of settlement, were far away and rather difficult to reach. The *Manep* people therefore had great trouble in collecting their daily food. To reach their sago grounds they had to stay overnight outside their village, so the parents took their children with them to the jungle. This absence from the village prevented the smooth running of the school-system and was a serious drawback when the DHO required a good attendance for the yaws surveys. The *Manep* case illustrates clearly how a change in the pattern of life due to economic reasons may result in unfavourable effects in other fields of social-economic development: education and health work. The DHO raised the question whether it would not be advisable to suggest to the inhabitants of Manep to return and settle again on their old site.

The expanding school-system also presented nutritional problems. The school-children were in the unfortunate position, that school started before the customary time for the first meal in the Asmat family. The pupils could not join the family fishing during schoolhours, nor could they collect enough snails and crabs for themselves. Adequate nutrition might therefore present a real problem for them. To supplement their food to a small degree, the school organisation sponsored gardening by the children in the school gardens. The DHO encouraged this scheme by visiting the school gardens in the villages during his DHC patrols. The high tides of salt water, however, covered the whole coastal region, twice a year, so that everything in the gardens perished. This fact did not raise the children's enthusiasm for school-gardening.

In an attempt to further the social economic development of the people, the administration devised two plans, which they thought would exert a favourable effect on nutrition.

The Agricultural Department suggested that coco-nut trees be imported. It had good reasons to expect that their cultivation would prove successful. By the middle of

1960 3500 trees had been imported. Asmat customs, however, created difficulties in their distribution.

In the pilot village of *Amborep* each house owner received a number of coco-nuts, according to the advice of the village chief. The coco-nut trees were planted in front of the house of each owner under the supervision of the officers of the Agricultural Department. A few days later quarrels arose. Nobody seemed to be content with the distribution of the coco-nuts. And all kinds of claims and mutual recriminations were put forward. As a result many coco-nut trees were dug up, and given to new owners in payment for old debts. The new owners planted their coco-nut trees before their houses, but soon ran into difficulties themselves as they in turn were remembered for some of their own old obligations. Again the coco-nut trees were dug up, and went on the move. Tensions between the inhabitants grew high, with the result that finally the LA *Lapré* collected all the trees, went away, and started the planting scheme in another village.
In the village of Atsj the coco-nut trees were planted outside the village in one great plantation. This was not successful either, as nobody could now keep watch on his own trees. The inhabitants were very suspicious that each one would steal the other's trees, and so they refused to work on the plantation. In the village of Ajam alone, a communal planting scheme inside the village was successful.

The administration considered the importation of deer as a pilot project. An extra supply of protein in the daily diet would appear to be of great advantage from a medical point of view. Nevertheless the DHO's advice was against this venture. Experience had shown in the past that the imported deer around Merauke had multiplied enormously, and they continuously ruined the gardens in the vicinity. Although there were no gardens in the Asmat, the DHO thought it necessary to make a thorough study of the oecological aspects of the importation of deer into the district and the side-effects that might arise therefrom. He held the view that this could not be a pilot project in the ordinary sense, in that it could not be stopped or changed if it turned out to be unsuccessful. Deer, once imported, could hardly be eliminated if their activities proved to be disastrous.

Finally, in assessing the nutritional requirements of the Asmat people, the DHO had to be guided by their dietetic habits. The DHO was deeply impressed by the important place which sago held in the daily and ritual life of the Asmat people. It was no use decrying this habit nor attempting to replace sago with some other staple food. In the hospital in Agats patients received sago as their daily food and in contrast to many

other hospitals, rice occupied a very small place in the daily menu. During this phase of introducing western medicine, into the area, the DHO was mainly concerned that people should feel at home in the hospital as much as possible. The supply of sago, which held a very high place in the scale of Asmat values, could contribute to this feeling of comfort.

As the nutrition of the Asmat people appeared to be fairly good on the whole, a free supply of expensive food, which the people would not be able to buy later because of economic considerations, was thought to be unrealistic. Such gifts could probably improve the nutritional condition only slightly. Therefore the UNICEF milk-powder programme, successfully adopted elsewhere in New Guinea, was considered unsuitable for general use in the Asmat. For similar reasons the DHC refused to supply milk-powder for orphan babies in the out-patient clinic. Care and nursing of orphan babies as practised in some hospitals elsewhere in New Guinea, was not customary in Agats. The DHO believed that the widely practised Asmat custom of adopting children provided sufficient opportunities for the care of orphan babies. Sometimes the DHC staff helped to make such arrangements. This appeared to be a more natural and logical way of providing for the care of orphan babies, than to supply them with liberal quantities of milk powder.

There was one exception to this procedure. In the out-patient clinic milk powder was distributed for the nursing of some twin babies because at the time the staff was not sure of the attitude of the Asmat people towards twins. Their adoption might therefore have encountered difficulties.

The medical protection

Hitherto the crude and harsh way of life of the Asmat people did not permit many contacts with the outer world. They were protected therefore against diseases prevailing in other parts of New Guinea. The surveys of the Asmat revealed no case of leprosy, and only a few cases of tuberculosis were suspected. Blood-tests did not reveal any antibodies in the serum against measles, and the scars of smallpox were never seen.

In order to assist in the social-economic development of the region a steadily growing number of incomers from other subdivisions in New Guinea moved to the Asmat (personnel from the administrative, shipping and agricultural services, policemen,

technicians, teachers, crocodile hunters). In view of this influx of immigrants, the DHO was greatly concerned to prevent the importation of diseases which were new to the region. The DHC spent much time in looking out for diseases from which the Asmat people had probably never suffered.

The first smallpox vaccination in 1959 failed, as the vaccine used was outdated. A new campaign had to be postponed from year to year, because of an outbreak of chickenpox in 1960. An inoculation programme against whooping-cough, diphtheria and tetanus started early in 1961 and was met with a whooping-cough epidemic some months later. The decision to stop this inoculation campaign at the outbreak of an epidemic, will be discussed at the end of this chapter.

Tuberculosis was the major problem. At this time the neighbouring Mimika area already had many cases of tuberculosis. Many teachers for the Asmat schools were recruited from the Mimika area. Asmat children might therefore quite easily become exposed to infection.

At this stage of the development of the Asmat region adequate treatment for tuberculous patients was practically impossible, as at that time there were no special hospital facilities. More important still was the fact that the social structure of the Asmat people most probably would not permit hospitalization of several months duration. Thus to prevent the importation and subsequently the spread, of the disease became the main target of the planning.

To prevent the importation of tuberculosis meant annual control of all incomers. Because no X-ray equipment was available in Agats, the DHO from Merauke assisted. In 1959 *van der Hoeven* (296) made a survey for the first time. Due to insufficient organisation he could not reach all the immigrants and clinically suspected cases. In 1960 *Vogel* was provided with a better organisation. He screened all the incomers and all suspected Asmat people. A combination of Mantoux reaction and X-ray examination was used in both surveys. No tuberculosis was found. In 1960 a sample survey of 300 inhabitants of the village of Atsj yielded one doubtful case (447). This patient was negative in 1961.

The Head of the Tuberculosis section therefore assumed that the Asmat was still free from tuberculosis, unless there might still be a very patchy distribution. The policy of controlling all the incomers once a year was continued. The organisation for this survey was based on voluntary co-operation, although crocodile hunters were legally required to have a yearly examination before they could obtain their hunting permit. All other incomers from the government, from the missions and from private agencies

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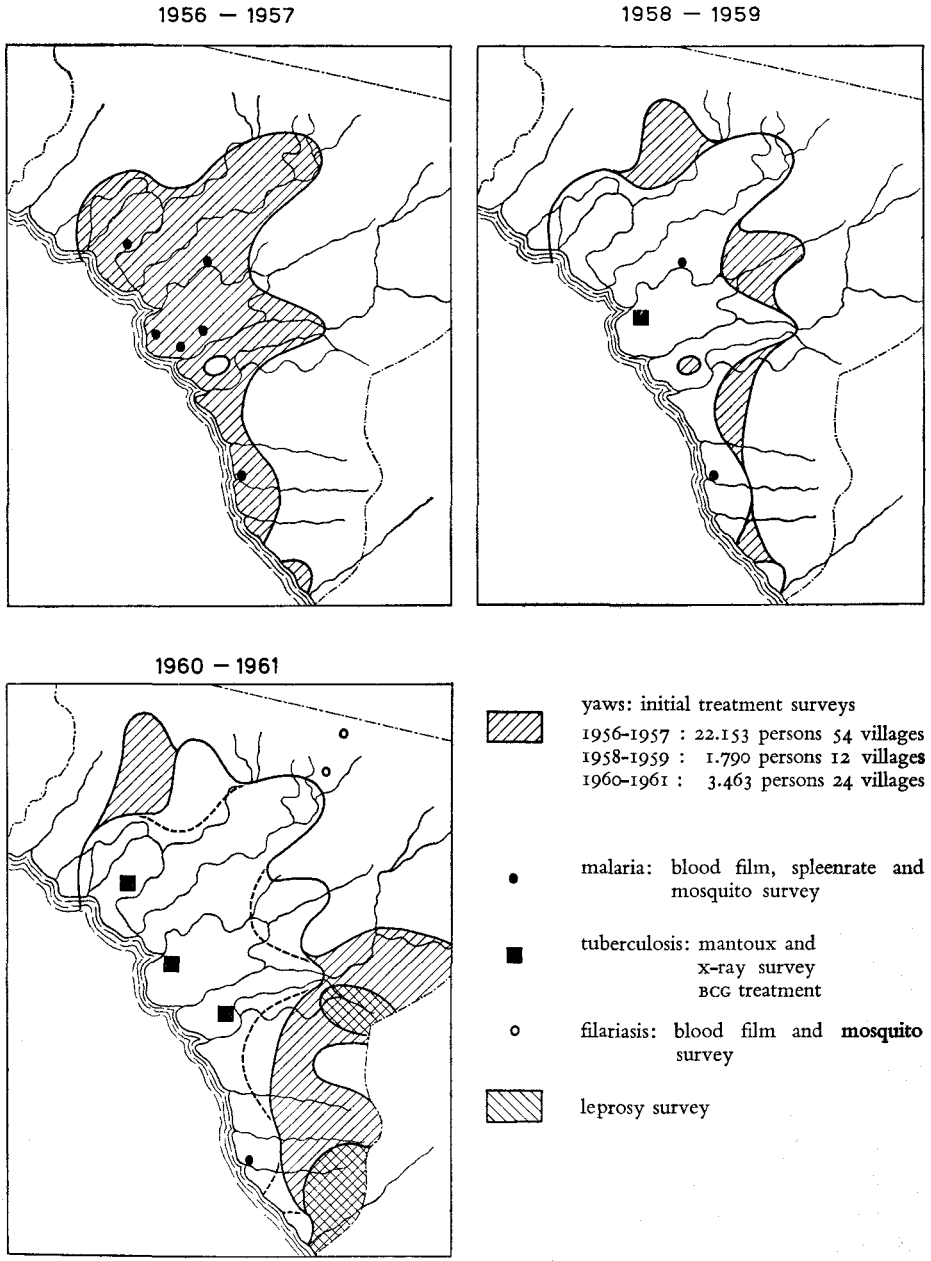


voluntarily co-operated in the implementation of the tuberculosis importation control programme.

A complete screening of all the inhabitants of the Asmat would have yielded the best information about the spread of tuberculosis. Cultural factors, however, made it inexpedient for the DHC to attempt this procedure. The people of Asmat had to go every day to the sago grounds or to the fishing waters. Depending upon the tide, they sometimes had to travel in the evening or at night. These daily obligations would clash with the medical demands that three days after the Mantoux injection every person had to come back to have his reaction interpreted and that the number of persons who could have an X-ray examination was limited to 80 in one evening. In an Asmat village of 300 or 500 inhabitants, it would have been impossible to devise consigning schemes to implement such a scheme.

Moreover the DHO did not think it was wise to let the people associate scientific tuberculosis surveys with injections, of which they were afraid, as noticed during the yaws campaigns, especially as in the Mantoux reaction it was often necessary to have multiple punctures with different concentrations in the same person.

It was fully understood that the policy if adopted, could not prevent the importation of tuberculosis, nor could it yield complete information about the spread of the infection in the Asmat.

Under the prevailing circumstances the yearly screening of all incomers and suspected Asmat people, combined with a sample survey in an Asmat village appeared to be a realistic policy.

Leprosy was the other disease threatening the region. The incomers were examined yearly simultaneously with the tuberculosis control. The situation in the region bordering on the Mappi area constituted another import route. In 1958 the Mappi area proved to be infected. A total survey of the Asmat people to include a combined yaws and leprosy survey was impossible.

In a leprosy survey about 100 persons can be examined daily. In a yaws survey this number can mount up to 600 or even higher. In many Asmat villages a leprosy survey would take several days. Intricate schemes for consigning people to attend would be confronted with almost insurmountable difficulties. The DHC did not have sufficient staff to survey about 30.000 people.

As the spread of leprosy is more along topographical lines than the spread of tuberculosis, it appeared to be more logical to survey at first all the villages in the threatened

border region. The 1961 patrol report listed 5 suspected cases who remained under control during the patrols. For the reasons outlined for tuberculosis, hospitalisation was of course out of the question.

A final feature of medical protection within the social economic framework were the attempts of the DHC to prevent the export of diseases. The central highlands in West New Guinea were free of malaria. Asmat pupils sometimes travelled by air to mission schools in the highlands. Therefore all planes were sprayed before take off and every passenger had to have full antimalarial treatment before permission to leave could be granted.

b. Pacification problems and mental health

The reaction of the Asmat people to contact with the outer world was not a retreat or complete isolation. On the contrary, the population very easily accepted all kinds of western material utensils, learned technical skills, and took advantage of the opportunities offered by the new era.

Axes and knives made of iron or steel were used everywhere in their daily life and particularly for the carving of ritual objects. Radio, boats and planes were accepted without much astonishment. Enthusiasm for cutting down and selling trees could be aroused quite easily. The men liked to go abroad on a one year's labour contract for the Oil Company.

The more fundamental ideas and conceptions of the Asmat people had probably been affected to a much smaller degree. Their mental change related to the economic adaptation was much greater than their over-all mental change. Their material uplift raised expectations within the people, which their minds could hardly conceive. The western incomers introduced values into the fields of administration, economy. health, jurisdiction and education, which were quite strange to the Asmat people. It was only to be expected that it would take some time for the people to adjust themselves and become integrated into the new norms.

The LA and the DHO were much concerned about this growing discrepancy between the results of the economic development of the people and their over-all mental change. As serious tensions might arise from this discrepancy, the related problems received much attention during the mutual consultations of the LA and the DHO.

One might think that this kind of problem concerned the administration only, and

one might wonder whether the examples described below are at all related to health work. It is fully admitted that such subjects are usually not considered in a description of medical activities.
The fact, however, that the impact between two cultures involves changes in the world of thought and ideas and thus involves the mind leads to the conviction that the tensions that result therefrom come within the sphere of mental health in medical work. The DHO felt that discussions, deliberations and advice regarding these problems were an important part of his task in the field of preventive mental health.

It is not intended here to enter into a complete analysis of all pacification problems, nor to theorize over the principles of acculturation. Some examples will be given to illustrate the bearing these have on health work or the influence they exert on policy making by the DHC.

Pacification

Early in 1956 the Government allowed the Ajam people to give a sham-performance of a head hunting raid for the benefit of a film company (226). During those months a steadily growing number of manslaughter cases remained unpunished. On April 30th 1956 the inhabitants of *Ajam* murdered 29 visitors from *Jipajer* in a real raid. Thereupon the Administration suddenly took vigorous action. It was clear that the *Ajam* people became confused. Everything, however, seemed to be settled by a three years jail sentence on the *Ajams* who had committed the murders and by large payments to the relatives of the *Jipajer* victims.
At the end of 1959 the criminals were released from jail and returned to *Ajam*. They brought with them many articles bought with their pocket-money while they were serving their jail sentence. Their visit to the "great world" together with this newly acquired wealth, gave these released men great prestige in their village which counteracted any negative status symbol resulting from a jail sentence. Even more serious were the consequences in *Jipajer*. The inhabitants of this village had understood the payment in 1956 and the jail sentence on the *Ajam* men to be adequate compensation for the loss of 29 relatives.
But this balance was completely broken in 1959 when the criminals from *Ajam*, rich and with much prestige, returned to their own village. The tension between the peoples of the two villages grew. As a consequence the mobile field team of the DHC

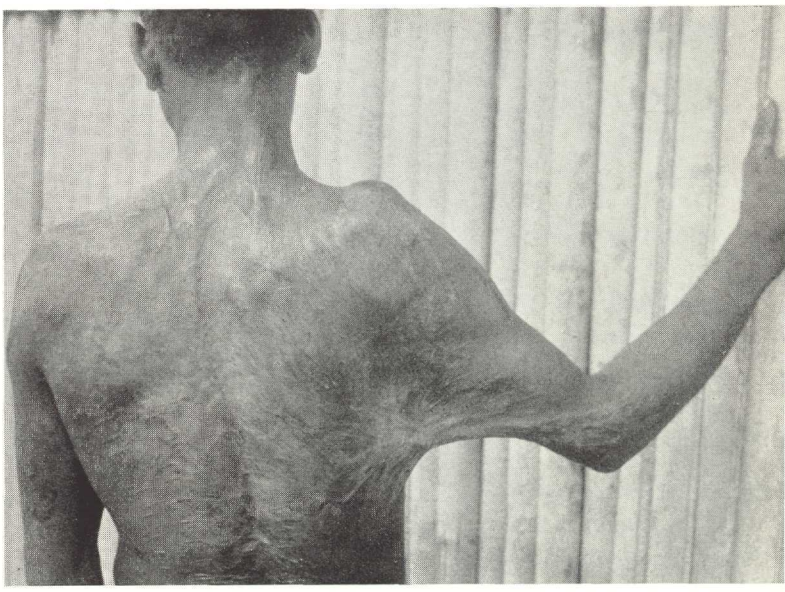
could not go directly from *Jipajer* to *Ajam* ,because this might have given rise to many objections. The yearly yaws surveys of both villages had to be scheduled in separate patrols. Meanwhile the LA realised that the people of *Jipajer* were brooding on a head-hunting raid on *Ajam* in order to settle matters in the classical Asmat way. To appease the tensions the LA arranged official meetings between the chiefs of both villages, fresh negotiations, payments and a *buman*: a peace and reconciliation ritual.
The consequences, however, were still apparent in both villages. The medical work in *Jipajer* remained difficult. A somewhat negative attitude on the part of the inhabitants resulted in a low attendance at out-patient clinics and yaws surveys. This fact might explain to some extent the rather high prevalence of yaws.
In *Ajam* there grew an uneasy state of listlessness and laziness. It appeared ominous that from June 1959 until February 1962 the village did not celebrate any major ritual, whereas every Asmat village celebrates up to 3 rituals every year.

In *Ajam* many acculturation problems came together. The 1400 inhabitants formed one of the greatest and mightiest communities in the Asmat. The first government subsidised school in the Asmat had been established here. It was the first village to have a catholic and a protestant mission. Due to its somewhat exceptional geographical situation, the inhabitants could not make any money from selling trees to the timber company.

Therefore, of necessity, special attention had to be paid to *Ajam*. The LA realised that the indication was not to exert too much control over them, as such a policy might lead to passive resistance and resignation by the people. All western agencies joined together in a prudent approach. The village was exempted from extra services to the government. It received priority in the establishment of rubber and coco-nut pilot plantations. The DHC doubled its out-patient services at the clinics on a bi-weekly schedule. The health work proved to be successful. The Catholic missionary *Hesch* launched a realistic house building programme. He started the running of a saw-mill on a non-profit basis for the benefit of the whole village. The first village council in the Asmat was established and it was here that the LA, the DHO and the missionaries discussed the problems of *Ajam* with the representatives of the people.
Summing up, all the authorities concerned felt that the *Ajam* case was a good example of the consequences of the clash between the different values of the Asmat world and the outside world. It also revealed the mistakes made in the course of this impact. Nobody pretended that the factors mentioned could altogether explain the outcome

Arc of skin grown together with the body as result of tight binding of the arm to the body for a wound in the arm-pit. Treatment practised when as a young child this patient fell into the fire of a fireplace inside his family house. Cookriver, 1961.

Photo: the author



ASMAT TREATMENT FOR LARGE WOUNDS

DELIVERY IN THE ASMAT HOUSE

Removal of the after-birth. Village of Pirimapun, 1962.

Photo: W. van der Waal

The daily out-clinic. April 1959.

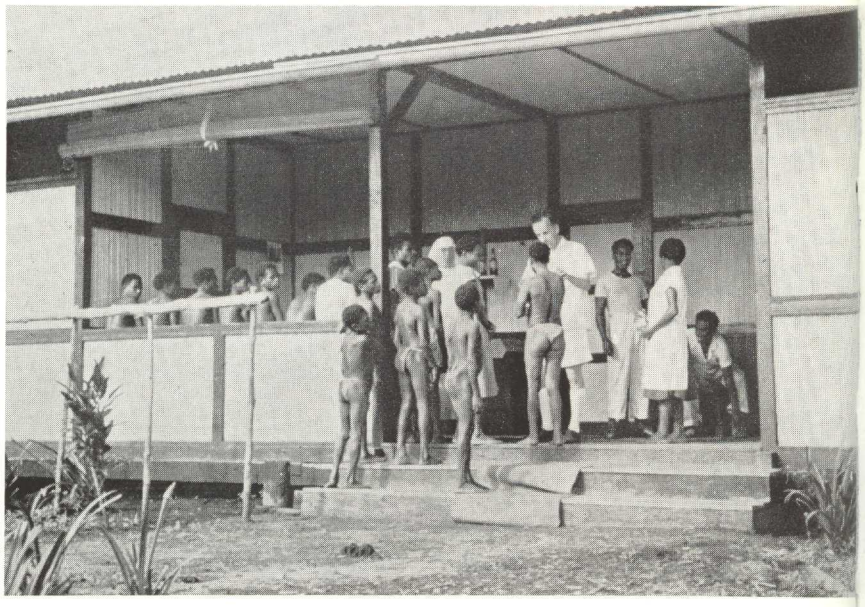


Photo: the author

DISTRICT HEALTH CENTRE IN AGATS

THE HOSPITAL IN AGATS

Building of a ward in the style of the Asmat man-house. 1960.

Photo: the author

described, nor that the proposals made and the measures taken were a complete or even a correct answer to the problems raised.
The *Ajam* case was not exceptional or unique. Similar situations with important bearings on the health work had developed in the villages of *Kaimo* – island river – and *Otjanep*.

Marriage

In the inter-tribal wars of the past many small Asmat villages had disappeared completely. As government policy was now opposed to warfare, new problems arose for some villages as a consequence of the pacification. The village of *Damen* offers a good example.
Damen is a small village of 160 inhabitants. During the 1940s and 1950s the inhabitants of much greater villages in the neighbourhood frequently attacked *Damen*, and stole many of their marriageable women. The villagers of *Damen* fled in fear into the jungle and settled upstream near the origin of a small tributary far away from all other villages along the great rivers.
In 1959 about 25 bachelors in the menhouse could not hope to find any girls in their own village whom they could marry. The inhabitants of the small village of *Damen* were not in a strong diplomatic or economic position to obtain young girls from the larger villages. The men in *Damen* were constantly worrying about this problem. Their psychical strain very likely constituted a severe drawback to the uplift of the village. The LA and the DHO often discussed this situation but could not find a direct solution to the problem. By the end of 1961 the LA and the DHO were able to encourage the plan devised by the *Damen* people to leave their hiding place in the jungle and to resettle on their old site along the great river. As the area was now fairly well pacificated, the *Damen* people could more easily make contact with the inhabitants of other villages and start new relations. This might result in a natural solution of the marriage problem in the future.

Authority

Much of the prestige of the village chiefs was based on their renown as leaders of wars and head hunting raids. As manslaughter was now forbidden, the fundamentals by which the chiefs maintained their authority were undermined.

A special problem for the incomers was to find out who actually were the leaders who were recognised by the people. Sometimes the Asmat people diplomatically presented a young man as a village chief. He might act as a buffer with the new world, whilst the recognised chiefs remained anonymous.

In order to avoid unnecessary harm to the social structure of Asmat society one of the main targets of the administration's policy was to support the authority of the leaders. The LA therefore had constant deliberations with them and tried to ascertain their views on government proposals.

For similar reasons the establishment of a VHC in *Atsj* entailed many discussions with all the village chiefs. The DHO had to make many patrols into *Atsj*, patrols which obviously had no "medical" purpose. But the trips made for these councils and deliberations were considered to be more essential for the future of the health work than were routine out-patient clinic tours.

In the strictly medical field the DHO had also to deal with his own problems of authority. The Asmat medicine men, the *namer-ow*, exerted great influence over the villages. What was the best attitude to adopt towards these practitioners? What was to be done in the DHC when symptoms of Asmat medicine made their appearance?

In 1960 the DHO adopted a policy of acquiescence. When patients visited the out-patient clinics with rattan strings around their heads to cure headache, the DHC personnel let these strings remain in their position. When patients complained of *jak-asasak*, "my belly is hurting", for diseases obviously located elsewhere, these complaints were considered as if they were quite serious. When sickness was attributed to magical causes, no attempt was made to contradict this view. One of the problems encountered related to the often numerous burns of Asmat medicine, which might result in great scars later. One was tempted to treat these wounds, but quite often the Asmat people renewed them by repeating the burns. For the time being, therefore the policy of ignoring the burns appeared to be a reasonable compromise between the attitude of active interference of western medicine and disapproval of Asmat treatment by western medicine.

Co-operation with the *namer-ow* in the villages was much more difficult. It took some years before the DHO knew who the most important practitioners were. The time and place of their work differed from the DHC set up. But once one got to know them, the *namer-ow* were invited to observe the health-work on outclinic-patrols.

The results obtained in *Atsj* and *Ajam* were reasonable, the help of the female *namer-ow Sarah* in *Ajam* was a very happy experience.
Gerbrands suggested that the sessions of mobile outclinic patrols should be held in the houses of these *namer-ow*, in order to create a bridge between Asmat and western medicine. This proposal was put into practice on several occasions. Many difficulties arose, however, due to the balance between social influence and power being upset in the village. Other *namer-ow* became annoyed and village chiefs, who were their adherents became less cooperative. This hampered contact with many people in the village. The DHC thereupon suggested a more neutral location for the sessions of the mobile outclinic tours: the menhouses of the village. Alternate visits were paid there and this proved to be a more favourable compromise.

Western Ambiguity

The activities of the Western world in the Asmat region roused great expectations among the Asmat people. The interplay between old Asmat values and their expectations from the new period could cause serious frustrations to develop particularly when contradictory trends appeared in the attitude and actual activities of the western incomers.
The general trend of government policy was to deal most cautiously with the old Asmat customs. The LA stressed the educational aspect of the judiciary. In the developed villages head-hunting was forbidden. In the villages in the border region which had made only few contacts, the remains and symbols of head-hunting were at first ignored. All persons working in the Asmat were instructed not to pay any attention to the display of skulls of head-hunted victims preserved in the homes in the villages.
In conflict with this policy were the numerous short visits often backed by official authorization, of journalists, movie photographers, television reporters so-called scientific expeditions and parties of ethnographic collectors.

These parties, as a rule, did not take into account the difficulties of the development process. They had a one-sided interest in the head-hunting aspect of Asmat life. These were the manifestations which they liked to see and to record. Their curiosity about a very limited component of the Asmat practices was at variance with the Asmat world in which all customs are tightly interwoven. These visitors often proceeded to work with complete indifference as to the mental consequences of their work upon the population.

The DHO often found it necessary to warn the administration about the dangerous after-effects that might arise from an increasing number of such visits. Of course the DHC did not advocate a kind of reservation status for the Asmat region. Such a situation would not be consistent with the social-economic development of the country. The consequences of the equivocal effects of comparing the visiting parties with the general development policy of the government was undoubtedly a mental health problem.

Furthermore inside the Asmat region an ambiguity could also develop when there was no synchronisation or co-ordination in the activities of the agencies working in the region. When differences in the interpretation of the objects of various development programmes became too great, psychical tensions might arise.

In health work this problem was come across in the planning of the yaws campaigns. The health centred attitude of the DHO favoured an extension of the yaws campaigns. An initial treatment survey, often carried out in ungoverned regions, might prevent the importation and thus the re-infection of villages already treated. The whole idea of visiting and treating as many patients as possible fitted in with this Hippocratic conception of medicine. The LA, however, pointed out, that contact with a yaws team raised expectations among the people visited that extended far beyond the health field, When the administration was unable to cover the region in which a yaws campaign was being conducted, the inhabitants might be disappointed in their expectations. The policy of the DHC could not be based at first sight on medical arguments only; it had to consider the possibilities within the overall scheme of development. After mutual deliberations between the LA end the DHO, the 1960 and 1961 yaws campaigns were conducted in accordance with two principles:

1. In regions beyond the control of the administration initial treatment surveys were carried out only in those villages where the inhabitants had frequent contact with people from other villages already treated for yaws over many years. The re-introduction of yaws from untreated into well treated villages could destroy the results of many years of campaigns. All the more so, because re-surveys mass campaigns were decreasing rapidly in popularity over the years. If yaws were re-introduced, it might be much more difficult to control or to eradicate. In this situation the medical arguments prevailed.
2. In other border regions, where either the geographical situation or inter-village

wars hampered contact between ungoverned, un-treated and governed, well-treated villages, the DHC abandoned the idea of organising and ITS outside the control-area. Here there were no pressing medical epidemiological arguments. It was much better that extension of the yaws-campaigns should wait until the medical coverage could be integrated within the overall development of the new villages. The rather bad results of the yaws campaign in the ungoverned Casuarine coast during previous years (pp. 86 and 107) contributed to the adoption of this policy.

Bad synchronisation of activities outside the field of health work, can have a bearing on medical activities.

In some villages the catholic mission had favoured a rather progressive baptism policy. When some of the baptized still followed the Asmat custom of polygyny, the mission tried to persuade the administration to commence legal proceedings. At this stage of development the LA refused to take action, as he thought the whole problem was far beyond the conceptions of right and justice as understood by the Asmat world. The DHO became involved in a mediating role. More important was the fact that the health team ran into difficulties in a village in which the chief had an argument with the mission regarding his own marriage, and so he refused to co-operate with the health team.
The building of mission schools in villages in which the administration had little influence offered analogous problems. The Mission blamed the administration for the bad attendance of children in their school. At this stage the LA did not wish to take action. Health work suffered the consequences of this animosity. During the surveys attendances were poor because the population was upset.
Both missions favoured the distribution of clothing. The DHO often warned them that he thought their approach was unrealistic, unless the population had the financial means and the social understanding to buy soap for cleaning their clothes.
Both the LA and the DHO were in agreement in their opposition to the mission's proposals to limit the number and the duration of the Asmat rituals. The LA thought that at this stage of their development such interference with Asmat values did not correspond with the task which the administration had set itself. The DHO pointed out that there was a risk of a mental vacuum supervening if the manifestations of the Asmat culture were opposed.

c. Medical – technical expansion

Curative care, hospital planning

The process of introducing western medicine in the Asmat was carried out in stages. Firstly the region was subjected to a medical survey to ascertain roughly the pattern of diseases prevalent in the region. Then, the disease which had the greatest incidence, yaws, was tackled by organising yaws campaigns. Later a small curative service was started in the village of Agats. This was soon extended by a scheme of out-patient clinic patrols serving four villages. The final stage was marked by the establishment of two village health centres. The time was now ripe to devise a policy to provide for a complete hospital service for the future. Plans had to be worked out rather early because all government building programmes had to be prepared one or two years in advance.

This description will not include all the factors that were taken into account nor will it consider the general problem of hospital planning for the tropics. Three factors will help to illustrate the problems of hospital planning within the context of introducing western medicine into the Asmat development plan: the order of priorities in the building programme, the social status of the hospital, and the principle of payment for curative help.

The order of priorities in the building programme

The DHC in Agats had at its disposal a small outclinic building which was a permanent structure, and a manhouse-style ward which was a temporary building. In the planning of a hospital the DHO accorded the highest priority to a small ward for the immigrants (a problem which cannot be discussed further here) and a permanent building for a ward for the Asmat people. The DHO held the view, that a ward with beds built in the western style, was most unsuitable for the Asmat in this phase of development. He proposed a solid but quite simple structure conforming as much as possible to the style of Asmat buildings. In such a hospital centre the Asmat people would feel at home and would be able to meet their families and sit around small fires on the grounds. (*Pouwer* reports a similar situation in the Mimika (378d)). Some years later, when a building containing wards in the western style would be indicated the old structure could be converted into a kitchen or storage room. The civil administration endorsed this view.

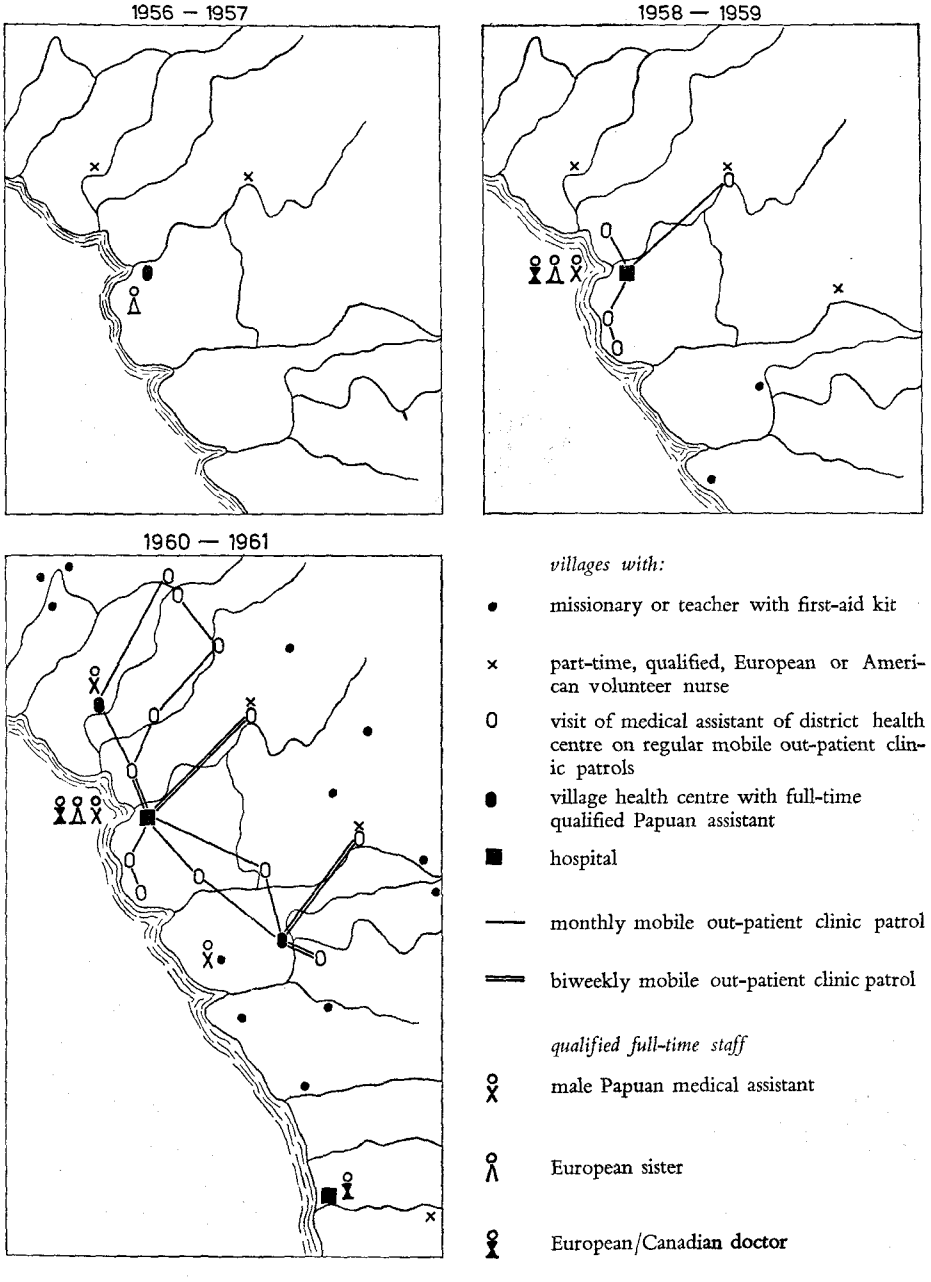
The Health Department, however, did not agree to an Asmat-style provisional building, to be converted later. It advocated a ward in the western style even during the first phase. Their view prevailed and the building was erected in accordance with their plan.

The social place of the hospital

Attendance at a hospital and the value of the medical work carried out there decrease sharply as the distance of the hospital from the villages increases (14). A distance of one or two days travel roughly marks the limit of the region which a hospital can usefully serve. This general rule applies particularly to New Guinea with its mountains and impenetrable jungle. The Asmat-proper, however, is an exception to this rule. The pattern of rivers and tributaries permits access to the most remote villages, the journey being possible by boat in 12 hours and by canoe in $1\frac{1}{2}$ to 2 days from Agats. (The Casuarine coast does not come under consideration here. Intensive curative help appeared to be rather premature there as explained on pag. 86).
Whilst these geographical circumstances were favourable because one could envisage that the future hospital would be able to serve a population of about 23.000 persons, the "social distances" were a more serious drawback. The people from landward villages were often afraid to travel down past the seaside villages. The problem was managed in two ways: by a mobile out-patient clinic service, and by providing transport facilities for hospital patients.

By the end of 1960 the DHC obtained a 3 ton motor boat. Subsequently the existing monthly mobile out-patient clinic services could be expanded on a much larger scale. In the new scheme 15 villages had a bi-weekly or monthly out-patient clinic. More than 11.000 people in these villages, about half the population of Asmat-proper, were afforded the opportunity of medical consultations once or twice a month. The DHC enjoyed the advantage of being able to control the health situation in the region much better: an outbreak of influenza in *Komor* was detected within four days, a re-infection of yaws in *Jaosokor* was treated before the disease could spread to other villages. The main object was to achieve more frequent contacts with as many people as possible so that the approach to hospital work might be improved.
The mobile out-patient clinics were scheduled in three- or four-day patrols. This enabled the staff to transport to the hospital patients who were found to be seriously ill in the out-patient clinics. The "social distances" between various Asmat groups were temporarily overcome in this way.

ASMAT: EXPANSION OF CURATIVE SERVICES



It was recognised that this system was luxurious, but it was the only approach which was likely to endow the hospital with overwhelming significance for the whole Asmat. At all costs the DHO tried to avoid the impression that the hospital was only a showcase, with a limited importance only for a small group of people living in its close vicinity.

One of the favourable consequences of the mobile out-patient clinic system was that the DHO could pay a monthly visit to the medical assistants at the VHCs in *Jamas* and *Atsj*. These patrols afforded him a good opportunity of controlling their work and evaluating the results. Even more important, however, was the fact that these well trained Papuan mantris were stimulated in their responsible tasks performed under difficult circumstances in rather lonely villages.

Payment for curative help

Hitherto all curative help was given completely free of charge. Some arguments appeared to favour a change in this custom.

The Sociologist's report drew attention to the Asmat habit of rewarding every service or gift of a fellow Asmat man (496). The *namer-ow*, the Asmat medical practitioners in particular demanded large recompense for their services. As the DHC tried to introduce western medicine in Asmat life, by analogy a request for some slight payment for curative help in the DHC was indicated.

The development policy favoured this view too. At present the incomers were organising all western medical services, but in the future the Papuans would have to run it themselves. It appeared to be unrealistic to build up a medical service now, which the people could not finance by themselves afterwards, because they would have got accustomed to the habit of receiving it free of charge.

Based on these two arguments the DHO proposed to ask for payment for curative help. As there was only a very small circulation of cash among the Asmat people, payment would have to be made in Asmat values of some sago and fish. In this stage of development it was never intended to cover the real expense of the health work with these small payments. The main object of the payment proposal was not the financing of the Asmat health project, but the educational value of the payment.

Before implementing the proposal, medical and ethical counter arguments had to be considered. Would the out-patient clinic attendance decrease? What bearing would such a drop have on the general level of health? Were we right in our assumption

that we could increase appreciation for western medicine by asking payment for it? Would it not be better to gain the appreciation of the people first by the results of good medical work before instituting a payment scheme? And how were we to determine the most appropriate time for commencing the scheme? The introduction of the payment scheme would require much time for working out methods of administration. Could we spare this time from our medical activities?

In the Asmat we had already before us the example of some missionaries and ethnologists who administered quite minor medical help in their villages. Reasoning from the above sociological arguments, they asked for some slight reward for their medical help. They were obliged, however, to give up their payment scheme after some months, not being a match for the genial display of Asmat intrigues. To what extent could the DHC – in similar circumstances – accept the help of the civil administration to collect payment without the use of enforcement? As there was not as yet even a symbolic tax collecting or payment system for schools, was it reasonable to expect a reward for medical help now?

The DHO discussed this problem with the LA, the missionaries and the officers of the Health Department, but no solution could be found. Bearing all these difficulties in mind, the DHO proposed that some payment should be made for maternity deliveries in the hospital, hoping to reduce the accumulating number of hospital admissions for confinements. But even here in urgent cases the DHO had to give way.

Preventive care; yaws control programme

Only those problems connected with the yaws control programme will be referred to that were related to aspects of the general development project.

The results of conducting the yaws campaign for 6 years in the Asmat-proper were different in the coastal villages from the inland villages along the border of the region under control. There was, of course, a gradual change in the trend of results as one went from the coastal villages to villages halfway from the coast and on to the border region. The Casuarine coast presented yet another type of result to the yaws campaign.

a. The coastal villages of the Asmat-proper

These villages had the oldest contacts with the western world. The Government and the mission had carried out their work here already before the yaws campaigns had

been started. Reviewing the six subsequent years, the outcome of the campaigns in villages of this group indicated that:
- the census in every village remained almost constant,
- there were only slight fluctuations in the attendance of the people at the surveys,
- there was a rapidly decreasing incidence of yaws.

In 1959 yaws had almost disappeared and in 1960 31 villages with 14.726 inhabitants were completely free from yaws. From 1961 onwards the programme changed to the consolidation phase. Control was now conducted by the two medical assistants of the VHCs in the villages of Atsj and Jamas.

b. The border region of the Asmat-proper

There had been some western influence here before the yaws campaigns had been started, but contact was rather superficial and incidental. During the years following the start of the campaign the contact with the people remained less firm than in the situation mentioned under a. Reviewing the six years of the campaigns the figures indicated that:
- the census was nearly constant, as in group a,
- there was a fluctuation in the attendance of the people at the surveys. Each year the people of one or more villages were afraid for various reasons and fled into the jungle. This is in contrast with group a,
- there was only a slow decrease in the incidence of yaws. This can be explained by the inadequate attendance at the surveys and a greater risk of re-infection from the ungoverned area.

The few attempts made to contact the people in these villages still aroused suspicion. The phase of confidence had not yet been reached completely, and consequently the DHC had to be very cautious in providing curative care during the yaws campaigns. The extraction of a tooth, the opening of an abscess for perfect "western" indications, could result in the escape of the population of a neighbouring village into the jungle after they had heard rumours about this form of treatment.
Because of the rather high incidence of yaws, it was still necessary – in 1961 – to conduct a yearly survey in this region.

c. The Casuarine coast

Here the yaws campaigns started in 1957 in a completely ungoverned region. It was impossible to take a census, because one could not explain the meaning of a census to

(continued on page 111)

POPULATION, ATTENDANCE AND YAWS INCIDENCE IN THREE

I. CENTRAL ASMAT/proper

	1956, ITS			1957. 1st resurvey			1958. 1st/2nd res.		
villages	*pop.*	*p.ex.*	*yaws*	*pop.*	*p.ex.*	*yaws*	*pop.*	*p.ex.*	*yaws*
Ao	229	229	23	244	129	0	243	232	2
As Atat Nakaj	688	684	65	704	529	0	653	626	4
Jaun Jufri	467	467	81	573	448	1	586	553	2
Kapi	238	237	19	265	254	0	249	235	4
Per	332	308	25				307	291	3
Ajam	1202	1202	113	1)			1300	1237	0
Amborep	493	493	55				509	472	0
Ewer	658	653	22				658	620	3
Jepem	349	337	20				400	366	1
	4656	4610	423	1786	1360	1	4905	4632	19

II. BORDER REGION OF ASMAT/proper

Agani	603	518	64	559	449	13	1231	1002	35
Bu	686	629	101	717	644	15			
Jipajer	670	662	91	712	617	7	724	681	22
Manep	578	560	45	871	799	5	871	801	27
Monu	933	771	112				1000	334	29
Kowet	97	88	15	1)			109	101	4
Momogo	265	263	55				256	256	7
Tjemor	239	237	24				239	218	9
	4071	3728	507	2859	2509	40	4430	3393	133

REGIONS IN THE ASMAT DURING SIX YEARS OF CAMPAIGN

1959,	2nd/3rd	res.	1960,	3rd/4th	res.	1961,	4th/5th	res.
pop.	*p.ex.*	*yaws*	*pop.*	*p.ex.*	*yaws*	*pop.*	*p.ex.*	*yaws*
248	248	0	272	265	0	272	251	0
639	638	4	687	568	0	676	668	0
539	539	3	546	543	0	578	552	3
265	263	2	277	263	1	307	278	0
316	307	4	314	300	0	365	357	0
1285	1264	3	1409	1352	0	1407	1157	0
505	493	2	519	500	0	539	530	0
686	669	1	655	644	0	697	637	0
382	378	2	383	367	0	401	395	1
4865	4799	21	5062	4802	1	5242	4825	4
488	378	22	631	625	24	573	444	8
617	505	22	617	542	5	665	557	6
699	699	23	736	624	2	709	608	5
938	874	21	938	547	1	887	863	0
919	905	44	905	645	13	962	697	18
123	103	0	127	115	5	121	119	4
163	163	3	200	177	5	295	101	0
238	*238*	*28*	*176*	*161*	5	212	198	7
4185	3865	163	4330	3436	60	4424	3587	48

III. CASUARINECOAST

	1957	I.T.S.	yaws		1958,	1st	res.
	pop. 2)	*p.ex.*	*yaws* + *casetr.* 3)		*pop.* 4)	*p.ex.*	*yaws*
Aworket	250	219	11	24	300	266	20
Bajun	175	170	18	18	250	222	6
Baous	150	102	3	36	135	112	2
Basim	400	369	20	47	450	420	8
Buepis	400	267	21	31	400	348	9
Emine	250	227	19	19	250	212	3
Kajerin	200	136	14	16	300	266	17
Nanew	400	321	26	34	400	328	9
Otjanep	1200	753	62	62	1016	839	11
Pirimapun	200	136	7	40	350	314	15
Samun	250	197	26	46	300	277	17
Sanem	80	60	11	11	100	74	1
Semendoro	300	208	8	8	425	395	33
Simsagar	(350)	249	10	10	350	303	16
	4605	3414	256	402	5026	4376	167

Explanation

1. In this group of villages the first resurvey was carried out in 1958.
2. The census this year is an average rating only; not an exact count.
3. Four months before the initial treatment campaign, many yaws patients were treated during the **first** visit. This column gives the yaws figure as yaws prevalence found at the initial treatment survey together with the cases found at other times.
4. The census this year is a rating only; the census of Otjanep, however, is based on a written census.
5. The census is based on a written census, made some months previous to the mass campaign. This explains why in some villages more patients have been treated then the total of the census.
6. Yaws patients treated this year by the mission doctor in his patrols, were from villages outside the group mentioned in this column.
7. doubtful cases.
8. incomplete coverage, as campaign was interrupted.

1959, 2nd res. yaws				1960, 3rd res.			1961, 4th res.		
pop. 5)	*p.ex.*	*yaws*	*yaws + casetr.*	*pop.* 6)	*p.ex.*	*yaws*	*pop.*	*p.ex.*	*yaws*
296	345	7	13	374	374	5	344	344	0
259	270	15	15	318	318	5	358	358	0
81	81	5	5	120	120	2	135	135	0
509	570	16	24	590	590	5	608	601	3 ? 7)
417	378	33	33	438	438	6	454	452	0
210	195	18	18	290	290	4	265	265	0
310	254	9	9	340	340	8	310	301	0
383	362	36	44	404	404	4	433	426	0
908	869	24	24	1164	1164	3	1068	1068	0 8)
328	309	7	7	377	377	1	393	379	0
373	340	11	11	410	410	1	413	413	0
67	67	1	1	68	68	0	80	80	0
244	343	4	4	403	403	2	318	318	0
350	255	27	27	469	469	13	471	471	1 7)
4735	4638	213	235	5765	5765	59	5650	5611	4 7)

Abbreviations:

ITS = initial treatment survey.

RES = resurvey.

POP = Population census.

P. ex = Actual number of people examined.

Yaws = total number of active cases of yaws.

(continued from page 107)

the people. The endless shoutings and quarrels during the early attempts made it clear that this procedure resulted only in embarrassment and fear. An estimate of the census was therefore based on the number of doors in each house, the number of fireplaces in each house and the number of canoes, the people had.

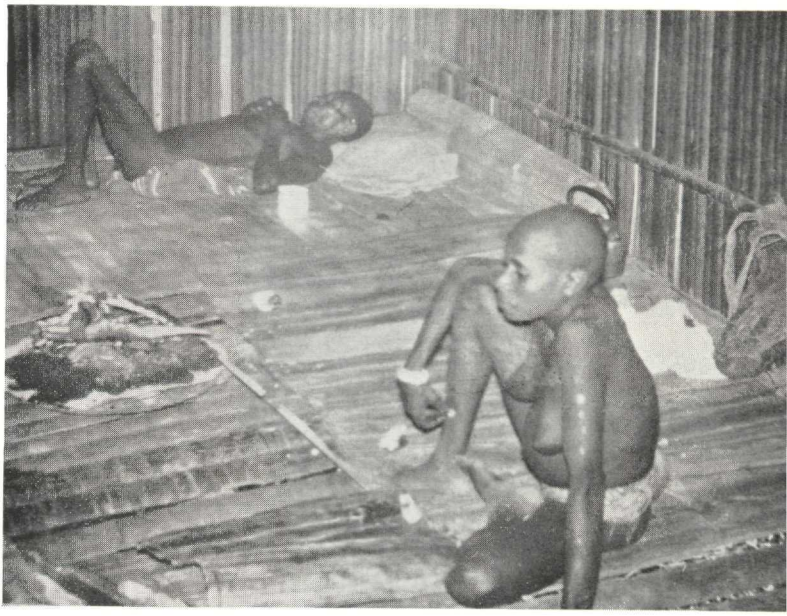
The results of the first three years were different from those in the last two years. The outcome of the campaigns in 1957, 1958 and 1959 indicated that:
– there was a very great increase in each successive year in the estimated census in nearly every village,
– there was a great increase in the attendance of the people in nearly every village in each successive year,
– the high incidence of yaws persisted.

The yaws campaign in 1959 proved to be extremely difficult. The activities of a film company which had visited the region just before the arrival of the DHC team, had left the region in a state of great unrest (393a). The people complained about the less tactful arrangements for the yaws campaigns in previous years. Enforcement at those times had resulted in great fear. This lack of confidence was probably the reason why many people hid in the jungle during the previous campaigns.

In 1960 and 1961 the results were much better. During the 1959 campaign the DHC abandoned every kind of moral pressure or enforcement and tried to gain the confidence of the people. Meanwhile the government had started its work. The new patrol officers *Krösschell* and *van der Waal* made friendly contacts with the people and cautiously promoted pacification. The mission doctor *Dresser* and the medical assistants of the DHC made out-patient clinic patrols. The results of the campaigns in 1960 en 1961 indicated that:
– the estimated or actual census of the people remained at a more constant level,
– there was greater stability in the attendance figures,
– there was a sudden sharp decrease in the incidence of yaws which could not be explained by the very small number of patients suffering from yaws treated in the out-patient clinic patrols during these years.
The annual report of the DHC in 1960 concluded that the early yaws campaigns in the ungoverned Casuarine coastal region, considered from the point of view of mass preventive medicine, had been a failure. The first three campaigns had cured many patients, but had not controlled the disease. The conclusion drawn from the campaigns in 1960 and 1961 seemed to indicate that mass prevention appeared to be possible only in combination with a smooth pacification policy and in conjunction with a general development plan.

Patients in the ward building. 1960.

Photo: F. Pitka

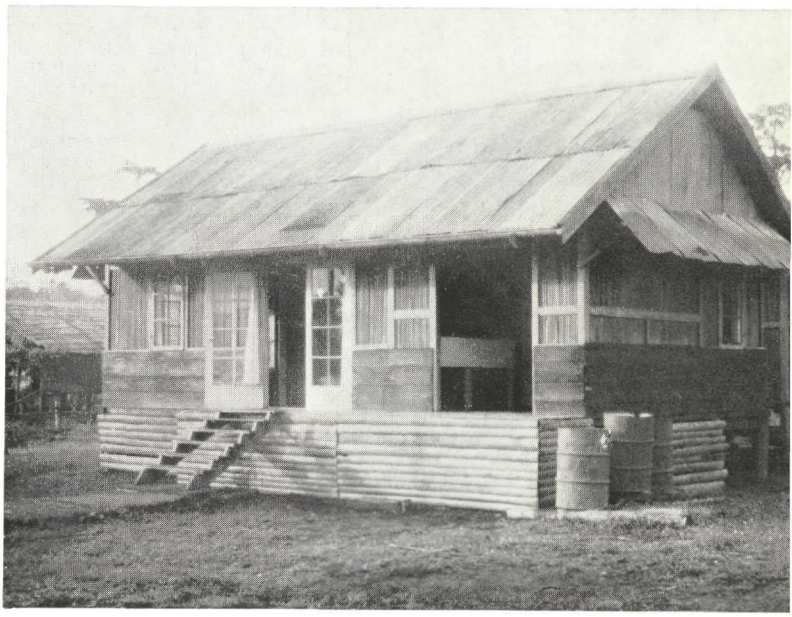


THE HOSPITAL IN AGATS

VILLAGE HEALTH CENTRE IN ATSJ

On the left the house of the Papuan medical assistant. On the right the out-clinic and the laboratory. November 1961.

Photo: the author



Authoritative talking by the doctor to the village leaders in an unaccustomed formal setting. Out-patient clinic patrol in the village of Samun, Cookriver. August 1959.

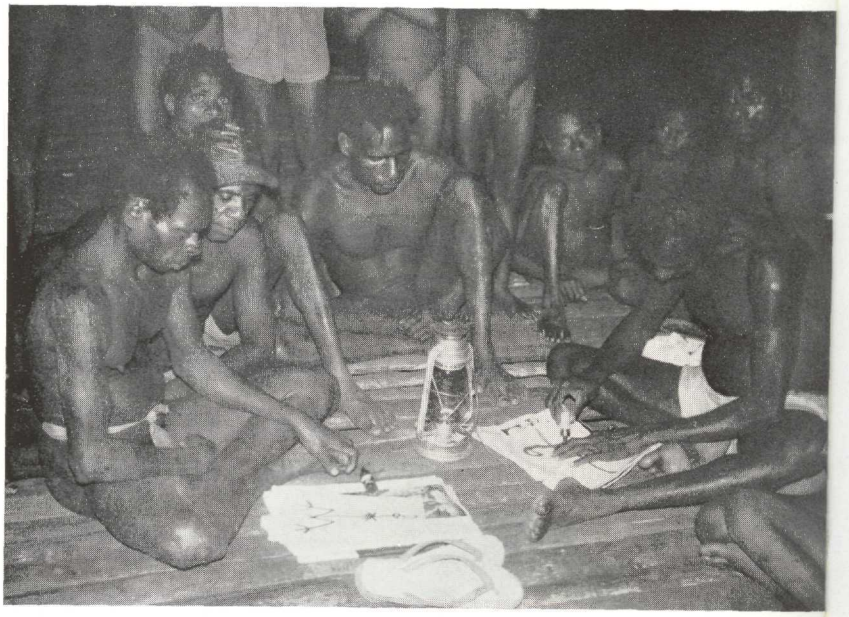
Photo: the author

THE OLD METHOD: ONE-WAY TRAFFIC TO THE MIND

THE NEW APPROACH: TWO-WAY MEETING BETWEEN CULTURES

Nightly meeting in the house of a village leader during a yaws campaign. Asmat men draw pictures of spirits and all kinds of animals from their daily menu. Village of Aikut, Cookriver. October 1961.

Photo: the author



Maternal and Child Health

In 1954 the DHO at Merauke hospital, *Veeger*, launched his training programme for Papuan village welfare workers.

The high infant mortality in his region acted as an impetus for his work. Young girls, who had successfully completed school in their own villages, were given two years training in the Merauke hospital. They then settled in their own village. They did pre-natal examinations, assisted during delivery, took care of the babies and rendered simple curative services. The main purpose of the project was to give the whole village a social-economic and cultural uplift by the stimulus of the example of these welfare workers (123).

Analogous to this plan, the first nurse appointed in Agats organised out-patient clinics for pre-natal examinations. She persuaded the Asmat women to come to the hospital for delivery. Out-patient clinics for babies were arranged in Agats and Ewer.
During the following few years this work was encouraged and it expanded.

The MCH was one of the important reasons that led the DHO to start the building of a ward in 1958. The annual reports of the DHO in 1958 and 1959 asked for the appointment of village welfare workers.

In 1960 the attitude of the DHO began to change. He began to have his doubts whether it would be possible for a young girl to stimulate the uplift of a village containing rather self-assured Asmat women and men. Experience had shown that even male officials who acted as teachers could exert little influence and prestige in the Asmat villages.
Meanwhile the pre-natal and child care services were continued as best they could with the aids and facilities available. The MCH out-patient clinic work was not expanded, and deliveries in the hospital were no longer encouraged. By the end of 1961 the whole question of MCH-work was reconsidered (annual report 1961).

1. MCH out-patient clinics had been organised in the villages of Sjuru and Ewer for 4 years. The infant mortality figures did not compare favourably with similar figures in the village of Ajam, where, apart from a few months in 1959, no MCH work had been carried out. The three villages were in the same phase of development.

1961	*Sjuru*	*Ewer*	*Ajam*
total population	697	696	1407
number of live births	48	51	104
deaths under 1 year of age	6	10	13
birth rate	69	73	74
infant mortality rate	125	196	125

2. It is often said that MCH work is very conducive for gaining the confidence of the people and that it is therefore an excellent starting point for the introduction of other medical activities. The figures for the general out-patient clinics in Ewer and Ajam do not confirm this contention.

1961	*Ewer*	*Ajam*
total population	696	1407
total attendance at general out-patient clinics	333	1245
number of visits during out-patient clinic patrols	20	17
MCH work	yes	no

The village of Sjuru is not considered here, as the people came on foot daily to the hospital general out-patient clinic. The report assumed that the attendance figures for an out-patient clinic reflected the confidence of the people. The attendance in Ajam was about twice that in Ewer.

3. Many people made very infrequent visits to the MCH clinics, and in these circumstances very limited usefulness could be attributed to MCH work. Many other people visited the clinic twice a week (in Agats). We were afraid that this habit might lead to a meaningless medical ritual. Only a small group of people attended the MCH clinics for a few months with reasonable intervals between their visits. This last group could probably derive most benefit from the MCH clinic.
4. Surprisingly enough the women liked to come to the hospital for delivery. The nurse and the DHO discovered that one of the important reasons why the pregnant mother liked to be admitted for delivery in the hospital was not because of the good medical care expected, but because she was persuaded by her husband, as during her absence he would be exempted from the task of pounding sago and collecting fish for her.

Hospital deliveries caused much work for the staff and were an important drain on the budget. The question arose: to what extent did deliveries in the hospital actually reduce mother and child mortality? How important were the medical reasons for spending so much time and money on the hospital? Two sets of data were helpful:
The DHO in Merauke, *Kleevens*, collected data from the MCH work in that district. His figures strongly suggested that the delivery is not the main cause for fatalaties of the mother or of the child (60).
In the Asmat we actually did not know whether normal delivery in the village, assisted by the family, was an important cause of mortality or serious complications. Notwithstanding frequent requests made by the DHO to many administration officers on patrol duty and to missionaries to report any accident or misfortune occurring in village deliveries, this kind of information was seldom received (on one occasion an inversio uteri occurred in *Ar Danim*, and once complications with twins in *Jamas*). Therefore no figures or estimates could be produced to demonstrate the fact that delivery in hospital actually reduced mother and child mortality.

MCH work in the Asmat had been carried out on a small scale. By the end of 1961 however the situation became obscure. Delivery in hospital was greatly appreciated, but it was likely that it had little medical effect. Attendance at out-patient clinics for pre-natal examinations and baby care was sporadic, so that the medical effects of these out-patient clinics became doubtful. The question was raised whether it had been a wise policy in the first place to introduce a form of western medicine like MCH care, that generally occupies a central place in the emotional and cultural life of the people. In the annual report for 1961 the continuation of the pre-natal and child clinics was advised but admissions for delivery in hospital were to be recommended only if there were strictly medical indications.

Health Education

For some years after the DHC had been established very little attention was paid to health education in Agats. The only activity in this sphere were routine public talks during the yaws campaigns. The DHO then stressed the importance of cleaning up the ground around the houses and urged the people to attend the out-patient clinics. It was a typical one-way approach.
In 1960 the fact was realised that health education in the Asmat presented specific difficulties. These problems could not be solved by merely duplicating techniques which had often proved successful elsewhere in New Guinea (*Voors*, 126). Some

examples will illustrate the errors made in attempts to provide health education in the exceptional circumstances prevalent in the Asmat and obstacles encountered.

Talks

The DHO became very doubtful about the usefulness of the above mentioned public talks. The LA *Kroon* had already emphasized that public talks were of less value in the Asmat, as the attention of the public could not be maintained for more than 5 minutes. But even so the question was: were the topics chosen hitherto for these talks the most suitable for public speeches? Which health subject and which special facture of health education should be given priority in the primitive villages of the Asmat?
The problem could even be put more fundamentally. Was it necessary at this phase of development to promote health education so actively? For some years the DHC alone had been established in the region. The people had yet to get accustomed to it and make clear their attitude towards it. Was not the mere presence of the DHC in the Asmat in itself an educational factor, which was sufficient for the time being?
Moreover it was realised that apart from some data produced by *Zegwaard* and *Boelaars*, very little was known about the Asmat conceptions about health and disease. It appeared to be more important for the DHO to listen than to talk. In order to find out more about Asmat ideas about the subject the DHC used two methods.
As a guest of the school-board the DHO gave some lessons on hygiene to the school-children of various villages. During these lessons the DHO asked the children quite simple questions about flies and mosquitoes, about the prevention of fever and diarrhoea. He was astonished when the children only mentioned measures which were obviously derived from the daily life of their teachers, as for instance the use of mosquito nets, repellents and insecticide sprays. The answers given were quite unrealistic in relation to the primitive surroundings and the small economic means of the people. Obviously the making of fire and smoke (as an anti-mosquito measure) simple cleaning of houseyards (as an anti-fly measure) and the killing of lice were not considered to be health measures by the Asmat children. It became clear that in the rather artificial atmosphere of the school no better answers could be expected.
Another way was therefore tried to overcome this drawback. During the yaws surveys the public talks were almost completely discarded and were replaced by informal talks at night by the DHO and the medical assistant with all the men who were allowed to come into the manhouse. Besides chats about common every-day matters

the DHC and the mantri liked to hear quite informally what the people said about their sago grounds, their fishing in the rivers, their food problems, and – quite exceptionally in a more limited group – about their bowel-habits and their care for the sick and dead. In this way some knowledge was collected about the medical beliefs of the Asmat people.
The whole process of health education had thus started with "telling them what to do" and had evolved into "listening to their opinions".

Visual and Acoustic aids

Printed posters, used in many hospitals in the South Pacific, were exhibited on the walls of the DHC in Agats too. Gradually we became aware that they were not successful in attracting the attention of the people to health subjects. The visitors to the out-patient clinic obviously did not grasp the meaning of the reproductions.
We therefore tried another method. Following upon suggestions made by *Gajdusek* and *Gerbrands*, the DHO turned to drawings made by the people themselves. During the talking sessions in the menhouse on patrols, some well-known wood carvers were invited to design drawings in accordance with their own ideas and conceptions. It took some time before they could be made to understand what our intention was. When they had familiarized themselves with the method, the DHO asked the artists to depict all kinds of familiar fish and different animals from the jungle. These drawings, some of which are reproduced in this study, were then pinned on the wall of the room in the out-patient clinic in Agats.
In between their work in the out-patient clinic the DHC staff made a habit of referring casually to the wall pictures and of asking the patients whether or not they liked to eat the fish or animals depicted. The spontaneous reaction of the people to these questions revealed much basic information on their nutritional customs and taboos.

The help to be derived from acoustic aids was discovered quite by accident. In the course of the yaws control programme the DHC team visited several villages in the border regions of the Asmat. These groups had had hardly any contact with the western world and it was very difficult to gain their confidence and explain to them what our intentions were. On the way to these border region villages the DHC team first made an overnight stop halfway in a village where the inhabitants were already somewhat familiar with our health work. During our stay we made a recording of a talk by a wise village chief, using a small battery tape recorder for the purpose. The chief was completely free to say what he liked about his ideas about the DHC team, and he probably exaggerated somewhat the number of axes

with which the DHC used to reciprocate the assistance and help given by a village chief. The main part of the recording consisted of Asmat songs.
Next day the patrol continued on its way. When it arrived at the border region village, the reproduction of the tape recording proved very successful. Even women, who almost always disappeared into the jungle could not resist the unique opportunity of hearing something from other Asmat villages, which in fact they dared not visit.

In spite of the success of these visual and acoustic aids, the DHC was very cautious in using them. The DHO agreed with the Protestant missionary *Frazier* that one could not predict the possible negative consequences of such measures.

Health education and training

To help in the daily running of the DHC, two young Asmat girls assisted in the routine work of the hospital and the out-patient clinics. The girls had attended for some months at the missions boarding school and had some knowledge of the lingua franca. They served as interpreters for the Asmat people in the hospital.
The main purpose of this training lay in the hope that in later years we might come across some adult Asmat women in the villages who had actually witnessed the every day activities of western medical practice. We hoped that these women could, from their own experience, dispel the distorted fairy tales that might be spread about western medicine. They could prove an invaluable asset in strengthening the confidence of their fellow villagers, and in reassuring some of the people who were afraid of the DHC staff. The DHO therefore asked the parents for their permission to allow their daughters to stay in the hospital for a short term of a few months only. In the hospital the girls received some basic instruction in hygiene, but we did not attempt to give them any elaborate training. We did not ask the girls to prolong their stay as much as possible, on the pretext that they were needed to ensure the smooth running of the hospital. On the contrary, as many girls liked to work in the hospital, we were not averse to frequent changes.
At some time in 1961, however, no suitable girls presented themselves as candidates. We had in mind to employ an Asmat boy as an interpreter and helper. Some of our colleagues from other parts of New Guinea had warned us previously that the people might be ashamed in the presence of a young boy from their own tribe who assisted at the anamnesis and at the examination of the patients. In the Asmat however, there

was a precedent because we had employed adult male Papuan medical assistants. These assistants came from other parts of New Guinea i.c. from non-Asmat people. They had worked in the Asmat for over 4 years generally without objection being raised by the people. These medical assistants even assisted at deliveries and seldom were any complaints heard. We therefore tried the experiment of employing Asmat boys as interpreters and helpers in the hospital. Their work was accepted by the people.

This measure, adopted quite casually at first, had consequences which were not initially intended. After some comings and goings the DHC employed a very clever candidate, who remained at the Agats hospital for one year and then went to the Merauke hospital to receive further training. So within 6 years from starting an integrated health project in a previously untouched region, the training of professional health workers chosen from among the Asmat people themselves was initiated.

c. An over-all example: an epidemic of whooping cough

In the process of introducing western medicine to the Asmat the above examples showed the relationship between health work and one non-medical factor. Often the problems were much more complicated. The outbreak of whooping cough will illustrate how arguments derived from the fields of curative and preventive medicine, mental health and general development had a decisive effect on policy.

In JULI 1961 a whooping cough epidemic was reported to be prevalent in the neighbouring Mappi area. No exact data were given but it became known that there was a low mortality. It was feared that the infection might reach the Asmat area.

It had to be decided whether or not an inoculation campaign should be organised. In other, more civilized regions, a whooping cough immunization campaign would of course have been organised. But in this instance, on considering the special state of development of the population in the Asmat region, several factors prevailed which, after detailed discussions with the administration, missionaries and two social scientists working in the Asmat, led to the decision not to organise an immunization campaign but to adopt another kind of prophylactic approach.

The schools had their holidays in AUGUST. Most of the people left the villages and lived in huts along the seashore or in the sago areas. It was almost impossible to reach the people for the purpose of immunization.

In all probability it would have been impossible to persuade the people to stay in their villages on 3 days at a weekly interval to enable their children to be vaccinated. Their social obligations would hardly fit in with such a request and their ambivalent attitude towards injections would be a great drawback in getting their sanction to have only the children vaccinated. Experience of the yaws campaigns had shown that it was much more difficult to undertake juvenile mass treatment than total mass treatment.
The possible repercussions of a whooping cough immunization campaign had to be considered. In spite of the precautions taken during mass campaigns and the attempts to base the work on free co-operation, one cannot avoid a certain impression that moral pressure or enforcement is being exerted as the results of the campaign depend largely on organisation and mass-measures. The reasons for a whooping cough immunization campaign would have to be explained to the people. It might well be possible for whooping cough to break out after the first, second or even third immunization injection. The DHO was afraid that in that case the preliminary explanation could quite easily induce *post-propter hoc* reactions. The people might then blame not only the DHC, but also the civil administration, the missions and the trading companies, for the outbreak of whooping cough. The DHO remembered the outbreak of a whooping cough epidemic in the central highlands in 1955 and 1956, which was reponsible for the outbreak of formal wars between the clans.

This decision was a rather negative one. With regard to the above mentioned motivations the following recommendations were made by the DHO to prevent the import, spread and exportation of the disease.

1. No government patrols were made into the uninhabited boundary region over an area of about 15 miles between the Asmat and the Mappi tribes. The mutual relations between the two tribes were not too friendly and would prevent any contact between them.
2. If whooping cough penetrated the region, hospital policy would follow the rule that no whooping cough patients would be admitted into the hospital as isolation wards were not available. The admission of patients with complications would be considered individually.
3. Asmat children who attended schools in the central highlands, did not receive permission to leave the Asmat by mission planes to the mountains. The children in Agats had already been vaccinated for wooping cough some months earlier in a routine campaign.

In SEPTEMBER whooping cough penetrated from the Mappi area into the Casuarine coast. The Mission doctor reported the cases as very mild with no mortality. The policy outlined above was therefore continued.

The usual western measure of closing the schools appeared to be of no use in the Asmat, as the children very frequenly intermingled in the villages outside school.
At the MCH out-patient clinics in *Sjuru* and *Ewer*, which had been organised for many years already, the sister tried to immunize the children after giving a concise explanation of the procedure. Among visitors of *Sjuru* the policy was quite successful, but it failed completely in *Ewer*, where immunization was refused most positively. Even the example of the penicillin injections during the yaws campaign did not help.
The yaws survey scheduled for this month was cancelled. The DHO had not as yet any clear idea of how swiftly the whooping cough epidemic might spread in the Asmat. It might well be possible for whooping cough to penetrate a village shortly after the visit of the yaws team, which might then be blamed for starting of the new disease. Repercussions on future health work had to be feared.

OCTOBER brought an important change. The Asmat-proper was still free, but the infection had spread over the Casuarine coast. As the DHC also covered the region controlled by the mission doctor, an evaluation of the situation was made by the DHO. A survey of two regions infected revealed the following data.

situation found at the time of the survey	COOK RIVER 10 villages		ARAFOERA SEA Tareo-village	
population surveyed	1028		1124	
whooping cough	patients found alive: 73 of which were screened: 55	patients found deceased 1?	patients found alive 36	patients found deceased 30
age 0-1	9	1?	5	5
2-5	12	–	14	13
6-12	16	–	8	11
12-17	2	–	2	1
18-25	16	–	7	–

The age of the dead could easily be estimated from the scaffolds behind the houses, the cause of death from a vivid description of the disease by the parents or relatives.
Two explanations were proposed for the difference in the attack rate between *Cook* river villages and *Tareo*.

1. The epidemic had started along *Cook* river 2-4 weeks before the survey, whilst in *Tareo* the disease had already been present for nearly two months. Due to the lowered resistance more fatal complications might have been expected in the latter situation.
2. The people along *Cook* river lived in well-built houses on wind-protected sites. *Tareo*, on the contrary, had just moved to temporary huts of poor construction near the sea. The winds of the August monsoon had blown straight towards the shelters. More bronchial complications could have been expected here.

The *Tareo* case led to the important conclusion that the disease ran a much more serious course than previous information had suggested. The DHO was faced with the problem whether his policy had to be changed. Would it be necessary to reconsider an immunization campaign? But after due consideration the conclusion was reached that the policy adopted hitherto, was the only practical one that could be carried out.

Two arguments contributed to this last conclusion.

1. The failure of an attempt of immunization at the MCH out-patient clinic in *Ewer* during the month of September.
2. The Health Department sent an extra medical assistant with instructions to carry out an immunization campaign against whooping cough. Although this central instruction did not coincide with the policy favoured in Agats, the DHC allowed the medical assistant to undertake a pilot immunization campaign. The medical assistant was warned against undesirable reactions of fear and their repercussions. He had a very good approach to the Asmat people, but was unable to implement the pilot immunization campaign. In the village of *Omadesep*, which already had 40 whooping cough patients, the medical assistant stayed for three days to persuade the people to become immunised, but he did not succeed in a single case. In the villages of *Jow*, *Bipum*, *Kowet* and *Ambisu*, which had so far escaped the whooping cought epidemic, the medical assistant tried to immunize the population with the help of the teachers, but did not succeed.

These experiences reaffirmed the view that it is almost impossible to adopt in such a primitive region procedures fully recognised and accepted in western countries.
The whooping cough epidemic faded away during the period from December 1961 to February 1962.

The situation in 1962

In 1962, after eight years of integrated rural health work, as an independent medical district during the past four years, the situation can be summarized as follows:

1. Medical exploration of the region had revealed a high prevalence of yaws and malaria, while tuberculosis and leprosy were almost non-existent. Filariasis was present in the border regions near the mountains. The general state of nutrition was fairly good.
2. The initial treatment survey of a total mass treatment campaign to eradicate yaws revealed a 12% prevalence. After 5 years 22,829 inhabitants lived in 60 yaws-free villages. Among the 11.011 people in the remaining 39 villages yaws was decreasing.
3. The constant efforts to prevent the importation of tuberculosis and leprosy had probably been successful.
4. Curative care, conceived as the counterpart of the preventive measures, was spread as far as possible into the region. An extensive system of out-patient clinic patrols gave 11.170 inhabitants in 15 villages, nearly half the population of the Asmat proper, and 1/3 of the total population, the opportunity for a bi-weekly or monthly consultation.
5. Two village health centres had been established. They controlled the results of the preventive work and made curative care available in the border regions of the Asmat. The mobile out-patient clinic system linked the health centres with the district health centre. The construction of a *f* 150.000.— (USA $. 40.000.—) district hospital was about half completed. The main task of the hospital was not to function as an independent unit but explicitly to serve as a starting point for the health work in the whole region and as the peak of curative care in the area served by the village health centres and the mobile out-patient clinic system.
6. The expansion of health work in the Asmat made it necessary on 1 January 1962 to establish a new independent district health centre for the Casuarine coast which had formerly been under the supervision of the Asmat DHC. Henceforth the 10.677 inhabitants on the Casuarine coast would be under the responsibility of the mission doctor, the district health officer of the new medical district.
7. The objectives for future development were set out in the 1961 annual report as follows:

- consolidation of the preventive measures; possibly an extension of the yaws eradication campaigns, preparations for a malaria spraying campaign and investigations for a filariasis project at a later period. All preventive measures had to be implemented in coordination with curative care.
- health education measures should have the highest priority, including both the *mutual* exchange of ideas on health and disease between the Asmat people and the DHC staff, and the training of Asmat personnel.

juri (dog)

CHAPTER V

an evaluation of the asmat project

An evaluation is an attempt to attach a value to the things under review. For a long time this implied only "our" value in inter-cultural medical situations. In other words it implied an evaluation from the western point of view. In the inter-cultural meeting in D countries, however, there are two partners and "their" value has necessarily to be taken into account too. This means that an evaluation has to be made from the Asmat people's point of view.

EVALUATION FROM OUR POINT OF VIEW

Introduction, approach and yardstick

From the western point of view there will be two approaches to the evaluation.
The traditional medical-technical approach endeavours primarily to find an answer to questions like: did the basic surveys secure enough information to start the programme? Have the priorities for implementation been selected in accordance with the facts found in these surveys? Was the plan executed and readjusted in sound co-ordination with all the agencies concerned? As our study gives a central place to the *process* of introducing western medicine, these questions will receive our attention. The final stage of the medical-technical approach is an analysis of the figures reached. In the context of our study this aspect is less important. Most of the health figures and vital statistics are therefore included in the appendices.

We will introduce a second method of evaluation, the medical-anthropological approach. This method goes further still with its questionnaire. Given the surveys performed, priorities selected, and agencies co-ordinated – all in a sound way – what was done next to secure that the programme was accepted by the Asmat people? How did the project deal with the Asmat way of life? How did it interpret the third dimension, that cultural dimension, of medicine? One may say, as a simplification, that the medical-technical approach thinks in terms of administrative relations and mathematical figures: were the most prevailing diseases curtailed? at what cost? in what length of time? to what extent? (136). The medical-anthropological approach looks to the people: to what extent did the planning of the programme calculate the possibility that the people would accept it; what was done for a real acculturation, i.e. the inner acceptance by the people of the health work offered to them?
In actual fact the medical-technical and medical-anthropological aspects are closely related to one another and cannot be separated one from the other except rather artificially.

If, for example, the medical-technical approach revealed that the priorities had been wrongly selected, so that a mass attack had been launched on a rare and unimportant disease, it would be futile to go into details as to whether a correct approach had been made to assure the acceptance of the preventive attack by the people.

It is only because considerations of a medical-anthropological approach are often overlooked in evaluating reports, that we have dealt with both approaches in separate paragraphs. This study is centred around the problem of medicine and culture. The medical-technical evaluation is therefore rather short; the primary aim is to place the medical-anthropological approach in its correct perspective.

The yardstick

Initially we intended to compare the Asmat results with the outcome of integrated rural health programmes carried out in similar very "primitive" regions in other parts of the world. Unfortunately in spite of help from several quarters we were unable to find any report which described a comparable situation.

From the foregoing fact it is necessary to explain why it was thought useful to limit our search initially to "primitive" regions, and why material from other countries was not thought suitable for a direct comparison.

To limit the field of study, the term "early" was included in the title "early introduction of integrated rural health into a primitive society". The term "early" was intended to indicate" an introduction of integrated rural health in an initial stage of contact between a western country and a primitive society". The characteristics of this early contact were intended to be confined to: a region which had recently been brought to pacification, had been influenced very little by missions, did not participate to any degree in western economy and possessed a very poor school system.
The literature then revealed a more fundamental criterion. People described elsewhere, who had made contact with the outside world long ago, had a group within them, whose members possessed greater knowledge of the outside world than the majority of their fellow tribesmen. Sometimes this group consisted of school children, often they were older people who had become more "world-wise" by trading, negotiating or working with the incomers. The members of this world-wise class are able to contact the outer-world rather easily, often because of their knowledge of a *lingua franca*.
They are somewhat "specialised" by their contact with the outside world. But this group also hampers contact, because their experience with the outerworld makes them ashamed to divulge information on old customs and organization patterns.
This world-wise group is often composed not of the leading class of chiefs in their own people's organisation, but of a group of young people without great authority or influence. As members of this world-wise group presents themselves for making contact with the incomers, they block the way for contact with the old real leaders of the people. These authoritative heads consequently often become rather annoyed or embittered, and constitute a serious obstacle to the implementation of health work. *Foster* (35) *Khalil* (58). *Oberg* (83), *Simmons* (113, 114) and *Swellengrebel* (118) illustrate the difficulties encountered in health programmes due to contact with this world-wise group.
The circumstances in the Asmat were by contrast unique, as there was no such world-wise group. The incomers met the Asmat people at one level of knowledge concerning the outer-world. This fact, in our opinion, justifies the use of the terms "early" and „primitive" in the title of the study as a distinctive mark contrasting it with other health programmes.

As we could not make detailed comparisons we had to look for health projects in much more developed D. countries. Since the circumstances were not altogether similar, we felt justified in trying to find only some basic trends, which could be helpful for an evaluation of the Asmat project. We are aware that this method is not altogether satisfactory, as the choice of basic trends reflects a personal preference.

From the medical-technical approach it has to be repeated that this study does not intend to give a comprehensive review of the principles of rural health. We therefore first chose a friction point in the Asmat project, and then tried to find data in the literature which could be of use in evaluating views on such a point of issue. We have not ventured to

give an exhaustive list of the literature on each point at issue, with an illustration to show how it could apply to the Asmat situation.
In the medical-anthropological approach the evaluation has been based on data from the literature as reviewed in chapter one.

The medical-technical approach

Two factors, actually more or less outside the medical field, had such a strong bearing on the health work, that they have to be taken into account.
The *cost* of the Asmat project has a twofold meaning: money and supplies. In 1959 a total amount of *f* 40.000.— (about $ 11.000.—) was spent for medicines and salaries excluding the budget for transport. The out-patient clinic had been built at a cost of *f* 8000.— (about $ 2200.—). These amounts are not astonishingly high for a development project, but the average cost of *f* 0,98 ($ 0,25) for every consultation at the DHC or during the yaws campaigns is higher than the amount that is available in many D. countries. In fact, there was practically no financial limit for reasonable demands of drugs and medical instruments. The supply of these demands was a "wealthy" factor not often found in D.countries. A well run Pharmaceutical Section supplied all realistic demands without administrative delays or red tape. Moreover the DHC had available all kinds of advisory services from the Health Department, including a good library service.
The *speed* with which the programme could be carried out was the second rather unusual factor. Many observers have already noticed that a more gradual growth of the medical services would probably have resulted in a smoother integration. Although the whole Asmat development project had been conceived as an integrated project and much care had been given to coordination, the annual report of the DHC for 1960 stated that the extent and intensity of the medical work at that time outreached the work of the civil administration and other departments. The delay in the social-economic development in particular was seriously felt as a drawback to health work.
People had no money to buy soap. Skin diseases such as tinea imbricata could therefore not be treated effectively. Future projects such as a malaria control programme might not meet with a social-economic substructure. The extent to which the health work was in advance of that of the administration has been illustrated in the example

of the yaws campaigns which had to stop at the border of the controlled region. Considering the fact that before World War II opinions regarding the speed best suited for development were much more conservative than in post war days in the case of countries which had recently become independent, it must be admitted that the speed of the Asmat project was influenced by the non-medical factors in the general policy. In 1957 the yaws campaign in the ungoverned Casuarine coast had obviously been favoured by the administration for non-medical reasons. This clearly corroborates *Foster's* statement (38): "Although intercultural health programs are treated in theory and often in fact as if they were exclusively scientific, cultural and moral problems, to be solved in those terms, in reality, political factors frequently are the determinants".

There may be some doubt whether the Asmat project had been based on firm scientific fundamentals. Some thirty years ago *Swellengrebel* had already noted: (117) "an important difficulty in public health administration is to decide which are the "initial" facts and which is the maximum amount of uncertainty which still allows of rendering a sanitary campaign comparatively successful in its initial stages before the "accessory" facts have been elucidated. Every sanitary campaign is research eo ipso, i.e. research forms an integral and inalienable part of any system of sanitary means".

Baumgartner (10) states: "Action needs not await sophisticated scientific studies. The studies are sometimes used as an excuse to do nothing but study. It is a recognition of the basic point of view or principle that is crucial to national health workers and planners".

Except for the MCH work and the anthropological research – the latter is discussed in the following paragraph – the Asmat project appeared to have been well balanced between direct work for the Asmat people themselves and more scientific-theoretic work, without which medical work risks being converted into myths.

The MCH work was an activity of the Asmat project that was launched before enough data had been collected to justify it. Imitation of a scheme that was devised under different circumstances in Merauke led to an unfavourable situation in the Asmat.

Some analogies could be found in the literature for the factors mentioned in the discussion about MCH's in chapter four, page 113. A health education pilot project in Egypt (*Boque and Habashy* 12) also started with a rather unjustified MCH. The evaluation one year after the propaganda campaign revealed a 75% drop in the attendances

at the child welfare clinics. In a review of the health centres in Kenya, *Fendall* (29) finds that "there is very definite requirement to ascertain and to differentiate between "felt needs" and "real needs". There is not necessarily any discrepancy between the two, but there often is and there is also the requirement of establishing priorities of needs". He illustrates this statement with examples from the MCH: „Psychologically the African had been conditioned to expect a free service from hospital and dispensary; his woman had been taught for years that the only safe place for childbirth was the hospital". *Killen* (59) held the view that in the rural health centres in Kenya there are many reasons for advocating midwifery at home, and that one of the greatest is the financial reason. For a rural health project in North Nyanza *Roberts* (99) concluded too that delivery at home was much better. When a payment system was introduced there, all attendances dropped to half the former number. In the Transjordan desert *Jones* (56) favoured a similar policy for his mobile medical units: "the midwifery was conducted by the old women who seemed to leave these things to nature as there was a surprising absence of complications". *Verdoorn* (124) raised many doubts about the usefulness of western obstetric help in formerly Netherlands East Indies. Even the results of the well-balanced project by *Veeger* (123) were not clearly demonstrable after some years, according to *Kleevens* (60).

On the other hand psychological reasons might be in favour of the continuation of the MCH policy. The paragraph on the people's point of view will illustrate this.

The failure of the yaws campaigns in 1957 and 1958 on the Casuarine coast indicates that such a mass campaign in a completely uncontrolled area was premature. Yaws campaigns are often considered as examples of a very successful, highly technical medical action which does not call upon the intellectual agreement or active cooperation of the people to any radical degree. We feel, on the contrary, that the failure of the early yaws campaign on the Casuarine coast and the success in later years there, together with the success in the coastal villages of the Asmat proper, support our opinion that a medical assistance programme can only have lasting results, even in a medical-technical way, when the programme is well-balanced and integrated in an over-all development scheme.

From a medical-ethical point of view the intention of the administration to use a yaws campaign on the Casuarine-coast as a good introduction for a future governmental establishment, does not seem to correspond with the intrinsic humanitarian task of medicine.

The decrease of a 12% prevalence of yaws in 1956 down to 64 cases at the 1961 re-surveys covering the larger part of 33.000 people, appears to be a result which cannot be regarded as too bad.

For the combination of preventive and curative care, the usefulness and superiority of the pyramid-system of health work with mobile field units is now generally recognised. *Wolff* (133) quoted the example in the former French Cameroon for the control of trypanosomiasis. *Aujoulat* (8) described the system in Dakar. Among the Masai in South Kenya it was the best solution for the health work (*Cachia* 18), although *Kershaw* (57) found the system less useful for preventive work with semi-nomadic tribes. *McLetchie* (71) concluded that in Nigeria this kind of combined service served best with people in sparsely populated areas. *Manuwa* (74) held the same view. *Waddy* (127) organised a superb service in Ghana. In the formerly Netherlands East Indies *Schreurer* (cit. 84) introduced the pyramid system around Jogja. After World War II a combination of curative and preventive services was initiated in Indonesia in the Bandung-plan (*Leimena* 63).
In retrospect we therefore feel that it was a fortunate decision to adopt the pyramid system of health work for the Asmat too. In the actual performance of the health work, western idiosyncrasies undoubtedly penetrated into the Asmat project. We mean that practices mixed up western medicine with western medical folklore.

A really "democratic" hospital policy (page 73) can easily meet with western approval. But was this in accordance with the "felt needs" of the Asmat people? What if the Asmat expectations were not at all democratic? As we do not know whether this is so or not, we are still in doubt whether the democratic hospital policy was not just a western veneer to cover up scientific medicine.
In the same way the better housing programme undoubtedly confused sound hygiene with exaggerated western ideas about cleanliness.
In 1960 and 1961 our Papuan medical assistants began to perform individual yaws surveys. They did an excellent piece of work. The fact that before that time the DHO himself headed the yaws team, reveals a perfectionistic and even paternalistic trend in the project of western origin, which has nothing to do with western medicine per-se.

The main positive point in the Asmat project is probably the attention paid to prevention. Usually this term means an attack on already prevailing diseases, so that only new cases should be prevented in future. Undoubtedly this kind of health work

is very useful. The yaws campaign in the Asmat is an example of such a conception of preventive medicine.

We have in mind, however, a more fundamental conception of preventive medicine. We feel that not only has western medicine to bring its "good" things to D. countries, but that it is honest also to prevent the import of "bad" things. We do not wish to discuss here the difficulties in determining what is good and bad in the two standards of values in an intercultural impact. But from a western point of view we think that for a medical-technical approach the prevention of the importation of tuberculosis and leprosy is a good thing. All the work done for these two diseases which in fact did not exist in the region, and the attention given to mental health problems which might arise as a result of contact with the western world, constitute a totality of medical work which – we think – is preventive medicine in its most fundamental conception.

The medical-anthropological approach

Parallel with the medical-technical approach, we raise the question of preliminary basic surveys. Here we touch upon a serious deficiency in Asmat health work. Too little was known concerning the medical ideas of the Asmat people. Apart from the work of *Zegwaard*, few data were available, concerning Asmat medical conceptions. The doctors working in the region until 1958 could hardly have collected these data, as they remained only for a short time in the Asmat on patrols.

This leads us to discuss the question whether an anthropological research should have been done before the medical work was started. Chapter 1 gives many arguments in favour of such a study.

The Health Department stressed the need for anthropological research in New Guinea with practical targets. The Civil Administration, however, did not support this view sufficiently to enable practical research to be carried out on a scale necessary to meet practical needs.

A problem not touched upon by anthropologists is the question whether it might be possible to get an insight into the people's conceptions of health and disease by observation, participation and interviews alone. A doctor who deals with western medicine exposes himself to the risk of stimulating or suggesting answers which are given to please the medical practitioner. It might be possible, however, that in contrast to western medicine, ideas might be provoked in the minds of the people and they might become stimulated to give expression to them.

In the special circumstances of the Asmat it is very doubtful whether such a preliminary study of an untouched culture would have been possible before any facilities or protection were available. *Zegwaard* was an unique person who could accomplish this. Many field workers in the Asmat mentioned the psychical stress caused by a stay in a somewhat isolated position amidst intriguing Asmat people. The number of immigrants who had to be removed from the Asmat by reason of a complete or almost complete psychical breakdown, was rather noteworthy. During his three years stay as DHO the author recommended such a leave on eight occasions on medical grounds.

We think the most serious defect of the Asmat project is the fact that between 1958 and 1962 no additional data had been collected about the people's ideas and conceptions of their own and western medicine. The overloading of the DHO with administrative, and medical-technical work is only partly a reason for this omission. The major factor was the failure to recognize the problem. The annual report for 1960 stated that the DHC work had outgrown the development work of the other agencies, and it concluded that the DCH activities had therefore to be consolidated. In retrospect it would have been better to propose to go more thoroughly into a study of the people's attitudes towards health and disease.

In 1961 this last task had been performed on a small scale only in collaboration with the linguist *Voorhoeve*, the social scientist *Eyde* and the ethnologist *Gerbrands*. The methods are described in the paragraph on health education work.

The payment scheme was not recognised in its cultural context (page 105). *Marriot* (75) gives a good example that in India the presentation of a bill for medical services did not raise the people's esteem for western medicine. Western medicine was compared with the business of a shopkeeper, while the indigenous healers practised medicine for piety's sake, for the purpose of enhancing their own religious merit. In the Asmat, the DHC recognised the place of the payment system in Asmat culture, but saw it only in terms of western payment in cash. The DHO drew attention to payment in relation to health problems only, and to its implications for the administration and the task of the staff. The fact was completely ignored that according to the Asmat way of life paid transactions do not have the character of cash transactions but are of a more continuous nature, similar to a current account in western countries. In certain transactions in Asmat life there is a time-lapse between the time of incurring a debt and repayment. This fact was neglected in the hospital proposals. In the Asmat payments and repayments with sago and daily utensils are in relation to social values in the traditional sphere; whereas western medical help propably was

not yet incorporated as a social value in this sphere, and therefore could not lay claim to payments with objects from this traditional sphere. Moreover Asmat transactions involve an obligation of a personal nature. As *van der Schoot* clearly states: (404) "In the Asmat view on the one hand all the immigrants are extremely rich and on the other hand they ask for payment, and this avaricious attitude does not raise the esteem of the immigrants at the Asmat people. This indicated that the principle of reciprocity does not apply to the immigrants". Similar findings were reported by *Pouwer* from the Mimika region (378e).

This statement does not preclude the possibility of a payment programme (as was practised in many DHC's in New Guinea) but it illustrates the quite incomplete planning and the lack of consideration on the part of the DHC, and how social-cultural factors had been neglected.

Apart from failures in the organisation, the better housing programme collapsed in all probability because the semi-nomadic way of life of the people focussed their attention on their canoes, which were much cared for. There were no reasons in traditional Asmat life why they should care for their houses.

The administration and the DHC sponsoring this programme, had not taken into account the fact, that these values in the Asmat mind had not as yet been changed by the new period.

Pouwer (378f) reports that in the neighbouring Mimika area an enforced better housing programme had bad results. The Mimika people associated their fine "standard" village with governmental instructions. They themselves preferred to live in their poor bivouacs. Bearing this in mind one has likely not to regret the partial failure of a premature better housing programme in the Asmat.

Besides these major topics, some minor examples may illustrate failures arising from the neglect of possessing anthropological data about Asmat culture.

In July 1960 a nightly blood-film survey was organized in the village of Tjemor for a study of filariasis. In the daytime the plan was explained to all the inhabitants and they agreed to let us awaken them at night for the purpose of taking the blood-samples. To enable things to run as smoothly as possible, the census of the village was taken in the daytime, together with the yaws survey. When the filariasis study was commenced some hours later at 22.00 p.m. the co-operation of the villagers was warm-hearted, but it was impossible for the DHO to find the children whose names had been registered some few hours previously in the daytime. A village chief came to the rescue of the embarrassment of a somewhat angry young DHO. The chief explained that one is not allowed to pro-

nounce the names of the children at night, otherwise the ghosts wandering around might become alarmed, and would carry off the children.
At the Agats out-patient clinic snake-bite serum was given as a routine measure to patients bitten by a snake. This is an expensive form of treatment and the serum can be stored for a short time only. This serum was therefore a heavy drain on the hospital budget. As treatment up to then had been rather empiric and as there was no evidence that the snakes were really poisonous it was planned to investigate the problem. The DHC therefore offered a reward for each dead snake brought in. Although the reward was raised twice – realising the great demand among the Asmat people for tobacco – the results were disappointing.
The annual report for 1961 mentions that only three snakes were brought in. The Asmat myths provided an explanation for this rather incomprehensible fact. The sinister role of snakes in Asmat mythology might have discouraged the people from bringing in caught snakes (482).
Not infrequently an incorrect estimation of the authorities in the villages counteracted the enthusiasm of the DHC. During the yaws campaign in the village of *Otjanep* on the 13th December 1959, the place where penicillin injections would be given was chosen to the satisfaction of everyone. Halfway through the campaign the tempo slowed down and the attitude of the inhabitants became unfavourable. The DHC was faced with complete failure, which was averted only when the whole working unit was transferred to another manhouse. It appeared that the chief had been irritated by our negligence to choose his territory. Such mistakes were repeatedly made until in 1961 a comprehensive index of all villages was compiled containing informations which enabled us to avoid such pitfalls.
A question of acculturation which could not be solved, arose in the village of *Komor* in July 1961. In this village it was customary to dispose of the dead corpses in the jungle, along the banks of a small river some hundred meters outside the village.
Possibly influenced by the mission's plan to lay out a church yard in the nearby village of *Jamas*, and possibly induced by the custom of the coastal villages to bury their dead in front of the manhouse in the villages, the *Komor* people turned up with the plan, that they would prefer in future to bury their dead in their own village. The first corpses had already been buried in such shallow graves, that parts of the bodies remained visible and were a nice prey for dogs. No personnel of the civil administration, DHC or teachers were available to give instructions for the construction of better graves. The DHO therefore advised the villagers of *Komor* to continue their old practice of bringing their dead outside the village, as from a hygienic point of view this was likely to be the best solution of the problem. However, they could not be persuaded to do this as they positively liked to participate in what they considered to be progress.
Unfortunately the DHO could neither detect other motives that might have been present, nor could he suggest a better solution.

The Asmat project, considered from a medical-anthropological point of view,

possibly had two positive points: its attention to mental health problems and its social tendency.

A review of the relevant literature shows that in D. countries the problems of mental health tend to outreach the classical problems of epidemic diseases (*Querido* 96).

Höjer (49) emphasised this aspect in the 1963 UN Conference on the application of science and technology for the benefit of the less developed areas. *Carothers* (19) collected many observations on Africa. *Sinclair* (115) studied the mental health factors in the cultural changes of the inhabitants of Papua and New-Guinea.

The Asmat DHC constantly focussed the attention of the civil and mission agencies to this problem. The choice of priorities was part of health policy and – notwithstanding the speed of the programme – a careful watch was kept to avoid overloading the programme.

The social tendency in health work should also be placed on the positive side of the balance. This trend meant that the DHC tried to find his place as much as possible amongst the people.

Examples of a quite superficial nature are the spread of the health work in preventive campaigns and outclinic patrols. We think the following factors are even more valuable indications for the social attitude: co-operation with the *namer-o*, listening-talking sessions in the manhouses, realisation of the cultural role of sago and refraining from unrealistic milk power programmes or too technical tuberculosis investigations, a quite simple educational programme in the DHC and a preference to simplicity in the building programme over a glittering and pleasing hospital showcase. All these factors illustrate the tendency to place the Asmat man in the centre of the health work.

EVALUATION FROM THE ASMAT PEOPLE'S POINT OF VIEW

The Asmat people did not play an active role in the process of policy making of the health work. Their voice was not directly heard in councils, their opinion was hardly sought in deliberations, nor dit they vote on decisions about the future of western health activities in their region.

The development of the process of introduction of western medicine therefore did not reflect the people's point of view. In this paragraph western health work should

be taken for granted in the manner that it was actually performed. We have to analyse solely the people's reactions to the health work as it was done among them.
Western science generally likes to find an arithmetical yardstick. Hence in many health reports the yearly increase in out-patient clinic attendances is given as evidence that the people gradually got to appreciate medical care more, and that the health work performed really covered the medical needs felt by the people.
Some authors however (*Bull* 16, *Zuidema* 140) noticed that out-patient clinics were often crowded with patients from "non-free" groups. These people are more or less obliged to come to the hospital or they use the visit to the hospital as an excuse to be free from other obligations. The group includes schoolchildren, brought to the hospital by their teachers, pupils brought from boarding-schools, policemen who need a medical off-duty certificate and government officials who come with quite minor complaints so that they can be absent from office work in order to enjoy some hours of chatting in the waiting room. All these people have only a feeble medical reason for coming to the hospital. So in Kenya *Bell* (11) finds it difficult to assess the degree to which individuals might be prevented from coming or are encouraged to come to the hospital.

Using attendance figures, it is better to distinguish some groups. In March 1960 419 patients attended the Agats out-patient clinic.

103 visitors or 25%	were patients from a non-free group as described above.
52 visitors or 12%	were immigrants, who were free to come to the out-patient clinic. They do not count in an assessment of the Asmat people's appreciation of medical work.
264 patients or 63%	were Asmat people, who of their own choice came to the out-patient clinic. This figure obviously reflects the actual interest displayed by the Asmat people.

A second important factor is the place of residence of the patients. People who come from far away probably took great trouble to reach the hospital. They count much more in assessing the people's appreciation of the health work than do patients living near by, who can visit the outclinic rather casually as they wish. In many hospitals in New Guinea it was noticed that the majority of the patients came from the neighbourhood of the clinic. We think that for an objective evaluation outclinic attendances should be divided into groups of patients, according to their place of residence.

In 1961 16840 attendances were registered in the Agats out-patient clinic. 40% of the people came from outside Agats and Sjuru, so from a distance of at least $1\frac{1}{2}$ hours paddling.

In the same year 364 patients had been treated in the hospital in Agats. Their place of residence was as follows:

Agats	27 patients		These patients lived at a short distance from the hospital.
Sjuru	126 ,,		
total	153 ,,	= 42%	
Ewer	66 patients		Two villages at $1\frac{1}{2}$ and 4 hours paddling respectively. Both villages were
Ajam	41 ,,		visited in the bi-weekly-out patient clinic schedule.
total	107 ,,	= 29%	
other villages	104 patients	= 29%	

We hesitate to enumerate the diagnoses made at the out-patient clinics in order to evaluate what percentage of the total attendances were accounted for by "serious" medical cases. Actually we do not know exactly the kind of illness that the Asmat people regarded as really serious. The western diagnosis of serious and less serious diseases is only one part of the problem. The selection of priorities should not be guided completely by scientifically established criteria nor should the priority selection be left to public demand (*Tesch* 121). This opinion guided our policy when in 1961 the Asmat patients frequently asked for medicine for tinea imbricata. We thought it useful to supply the medicine, notwithstanding that the medical prognosis was rather doubtful, because there was constantly the great risk of re-infections by untreated people.

These figures however, do not reflect sufficiently the people's point of view. The opinions and reactions of the Asmat people themselves are a much better guide. How did the Asmat people generally consider the activities of the incomers, and what particularly did they think about the health section in the work of the immigrants? Exactly at these crucial points there is a great shortage in our knowledge which has to be placed on the negative side of the balance of all the development work, more especially of the DHC activities.

The general attitude of the Asmat people towards the immigrants can be expressed as a feeling of equality. They did no consider themselves to be second class, but

deliberated with the immigrants on completely equal terms. The Asmat people acquiessed in the incomers' staying in their country, because the immigrants were the brothers of the Asmat people. In ancient times some of the relatives of their ancestors had left the Arafoera sea region, and had settled elsewhere in the world. Abroad these emigrants had experienced somewhat better luck than themselves in the material and psychical aspects of life. The descendants of these former emigrants are the immigrants of to-day, who have come back to their home country near Eastbay. With their return the home-comers have brought back to their family in New Guinea the wealth and knowledge they gathered abroad.

It followed that a new visitor could sometimes be recognised as the son of an old hero or ancestor. A village chief might adopt a western officer, a medical assistant or a missionary, as a son of his family. In this way the old relations were reinvigorated and the new incomer was accorded his proper place in the social pattern of the clan.
On the material level this conception may explain why western articles like axes and knives were accepted quite readily in their day-to-day life. Their use for carving ritual objects might indicate that there was no essential difference between the tools used by the western world and those in use by the Asmat world.
The conception of brotherhood meant that western articles were not considered as just the property of the incomers but as part of the common share of the immigrant-brothers and the Asmat people.
The immigrants were incredibly rich, due to their better luck in life, and it was only just and fair that they should share their knowledge and wealth with their family near the Arafoera sea.

The attitude of the Asmat people to the health work is even more unknown. We can give a few examples only. In general the health work was considered in the same way as all the activities of the western world: without astonishment and with some eagerness when it was obviously profitable. The meeting of old and new values, however, encountered some friction points.
It is therefore questionable whether even the most acclaimed penicillin injections and anti-malarial drugs did not result in an ambivalent attitude.
Nearly every report on the yaws campaigns records the great enthusiasm of the people. This cannot be denied, but to suggest that this enthusiasm indicates real medical appreciation of the penicillin injections is not logical. Some authors (*van Kessel* 313, 314 f.e.) found that the injections were accepted with great fear, which was only overcome by the greater desire for knives and tobacco. These articles were often

presented to the people during the campaign. The observation of the author that the penicillin of the yaws campaign was often compared with human body-fluids, particularly male sperm, led to the assumption, that all injections were thought to be closely related to black magic. The studies of *Eyde* (257) explored this motive more thoroughly. He put forward the view that the Asmat objection to injections rests to a large extent on the fact that intrusive objects play such an important part in their witchcraft. *Eyde* ventures to raise the supposition that the intrusive objects of black magic upset the balance of *ji* and *bi* which are the fundamentals of the Asmat conception of life. The resemblance of penicillin aluminium monostearate, used in the yaws campaigns, to *ji*, can offer a reasonable explanation for the ambivalence of the Asmat people towards injections.

This enables us to suggest a new explanation for the, frequently observed, dislike by the Papuan people of oral medicine. We also found this dislike in the Asmat people. This fact has generally been explained by the admiration of the Asmat people for the prompt cure of yaws patients by penicillin. We can think of a more deeply rooted reason, which is not based on the mere technical results of penicillin derived from western culture, but is connected with Asmat culture. The ambivalence towards injections can be explained by considering the role played by intrusive objects in black magic. In black magic the fundamental balance of life between *ji* and *bi* is destroyed. In serious situations such as disease this balance is also endangered. By comparison one might suppose that the positive appreciation of the ambivalence of the injections will prevail, because intrusive objects, like injections, will be favoured as a therapeutic measure as against quinine or sulpha pills, in consequence of their ability to restore the balance of the fundamentals of life.

In the description of the MCH work, we have already indicated that deliveries in hospital were favoured by the people, for reasons which we could hardly interpret as an appreciation of the medical work according to western standards. In the same way, the popularity of the MCH out-patient clinics appeared to rest mainly on the opportunity that women had once a week to shirk their duties as housewives and to have a nice chat for a little while in front of the out-patient clinic, at the same time showing off their babies. We must not, however, deprecate these reasons completely. They can give an "image" of the health work created by the people themselves, while

we are sometimes busy trying to create images for our work, which the people cannot appreciate (*Baumgartner* 10).

Actually we could find only one symptom which indicated that western medicine meant something to the Asmat people and had somehow found some small place in their world. It was the experience over three years with six patients who called in the help of the DHC for a diagnosis, which rested entirely on their own cultural conception, namely: black magic.

In chapter 1 there are many examples that enable one to distinguish between diseases that western practitioners can cure, and diseases about which they know nothing, such as diseases caused by "mal ojo" in South America. Black magic in the Asmat belongs to this last group. (see page 54). In spite of this fact some patients were treated for black magic in the Asmat hospital.

On the 12. of June 1961 a young boy I., twelve years of age, attended the out-patient clinic in Agats with a trivial complaint of low back pain, without any other obvious signs. Normally this ailment would not have required elaborate investigation, and it would have been treated in the first instance with an ointment. The DHO however, was struck by the contrast between the irrelevant complaint and the serious, apathetic appearance of the patient. This was all the more extraordinary, as the DHO had already known the boy for over two years as a gay, naughty school-boy, who played football every afternoon on the field in front of the doctor's house. The boy had fainted and he was admitted to the hospital (admission nr. 139/61).

Physical examinations revealed no serious general or neurological symptoms. The blood slide was negative for malaria. After a long discussion the boy whispered his confession that a woman, living in his family house, had made the ingredients of black magic against him and that he had to die. A family feud was the probable reason. The patient was kept in complete isolation for one week, with a nurse, a medical assistant or a doctor, in attendance day and night. For one week the boy received narcotherapy with morphia injections.

On 19. June, the boy returned to school, but he came back to hospital for his overnight stay when school was over, because he was still afraid to go home. On 21. June the patient left the hospital.

Later the fact that black magic had been practised against this boy, was confirmed by some rather trustworthy spokesmen.

We admit that the Asmat people consider the disease to be incurable, so that their recourse to the DHC can be explained as an *ultimum refugium*. But we also think that

this recourse to the hospital can be regarded as a real acculturation symptom, meaning a deed of inward acceptance (*Köbben* 61).

Though the figures, six patients in three years, are quite insignificant when compared, for example, with the number of patients treated and cured during the yaws campaigns, we feel that these six patients treated for black magic are the most certain contribution to the positive balance of the evaluation from the people's point of view, because in these cases we touch upon a real qualitative factor (*van Amelsvoort* 206).

firogo (cuscus)

medical anthropology: the way ahead

Practical conclusions, suggestions for future research

Medical anthropology directed attention to the cultural characteristics of medicine. The medical practitioner who recognises this context, might wish to discover the salient points or he might like to obtain practical suggestions for his daily work. But then he meets with communication barriers on his way. The translation problems between the two languages of different scientific disciplines: anthropology and medicine, hamper mutual contact.

In their case studies of health projects anthropologists proceed from conceptions such as the community, authority, value-system, channels of communication, motivations for cultural change. Here the health worker does not feel himself on familiar ground because he is not accustomed to deal with such reference points. It is difficult for him therefore to find the basic trends suited for general application in all the case studies presented. Even *Paul's* excellent compilation of case reports falls short on the point in which the health worker has the greatest interest: "a general analysis of all the interesting problems raised in the course of the book" (*Freedman* 44).

The very youth of medical anthropology may explain this state of affairs. Ten years of research could hardly have permitted the construction of a comprehensive theoretical body of knowledge. But as a conceptual scheme with which the health worker can familiarize himself does not yet exist, the medical practitioner up to the present is unable to find a central viewpoint to include all the data conveniently arranged. Even one of the most experienced research workers in the field of medical anthropology states in a recent monograph that his study will only direct attention to the problems of elucidating technical development in regard to social and cultural processes, but that he is not in a position to give advice on do's and don'ts (*Foster*, 40).

(continued on page 145)

scientists supply information and viewpoints which might well help medical workers to devise and implement public health programmes. Actually too few anthropologists are as yet familiar with this field of public health and the sub-culture of its practitioners. Moreover the budget at present available for studying the human aspects of health improvements is generally small compared with the sums of money available for technical research. *Paul* calls this the "research gap" (92).

Hence in most situations the medical practitioner will have to find his way on his own. Based on *Ackerknecht* (1) *Burton* (17), *Jelliffe* (55), *Simmons* (112) Australian data (111) English data (82) and on personal experience in the Asmat, the following memorandum might help to touch on some of the problems of health and disease in a given setting. It is not intended in any way to provide a complete professional outline of all the elements in a given culture related to health work. Although we are fully aware of the taboo set in western culture for browsing in other fields of science, the scheme may nevertheless reveal some cultural elements and so stimulate the vigilance and the caution of the medical practitioner who has to carry on without the assistance of workers from the fields of social science. (scheme pages 147-151)

SUGGESTIONS FOR FUTURE RESEARCH

The literature on medical anthropology gives a few theoretical reflections. Only certain aspects of the cultural dimension of health work are considered. Anthropologists start from their concept of culture and make many obvious points about cultural and social processes, but their studies do not appear to be well adapted to the interests and needs of the medical field worker. It is generally felt that numerous studies have already presented many data, but that the lack of a conceptual scheme cataloguing these facts is the main reason why these data are of little help in designing new studies or advising on action programmes. Nearly all the authors who comment on *Polgar's* review (95) give the highest priority to theoretical and methodological development. We feel that the greatest difficulty in the way of future development is the inadequate communication across the disciplinary border lines on the part of medical science. Our suggestion for a new methodological approach is based upon the opinion, that up to now *medical science* has been *unable to provide relevant data and to inquire about relevant data* from social science. Our concept aims to stimulate health workers to become conscious of their task in cross-disciplinary thinking.

(continued on page 151)

SCHEME 2 – **MEMORANDUM FOR MEDICAL PRELIMINARY SURVEYS**

I. HYGIENE

1. Is spitting socially accepted?
2. If there is any interest in mosquitoes and flies, what is understood of their origines?
3. Is there any belief about the origines of flies?
4. What are the traditional places of defaecation?
5. Is any effort made to hide faeces (e.g. from evil sorcerers)?
6. Is the shape, size or disposition of houses governed by any particular belief?
7. Are there special types of houses for different groups in the community, i.e. men's houses, houses for adolescent boys, houses for young unmarried girls or other groups?
8. Are there any sorcery beliefs making the people fearful of having windows or other openings in their houses?
9. Are there any general rules of health in regard to bodily cleanliness?
10. Is there a preference to use rainwater, or surface water, or water from wells for drinking water because of beliefs?
11. Is there any belief about the contamination of water with dirt, with urine, with faeces?
12. How is water, collected for drinking purposes, stored and for what reasons?
13. Is there any belief about drinking water as a cause of disease?
14. Is there any belief about the qualities of hot and cold water?
15. What is the burial ritual? Is there any difference between social classes?

II. CONCEPTION, BIRTH, INFANT CARE

1. Are there rituals to ensure or encourage fecundity?
2. What are the beliefs about the relation between sexual intercourse and conception? Are there other beliefs about the cause of conception?
3. Are plants or devices used to reduce fertility or produce abortion? Is prolonged breastfeeding practised to prevent conception?
4. What procedures are believed to ensure growth of a healthy child in the uterus (e.g. food restrictions or supplements for the mother, rituals etc.)?
5. Are any actions believed to have harmful effect on the unborn child?
6. How are the beliefs mentioned in in 2, 4 and 5 related to the social system?
7. Normal childbirth: Who assists with the delivery and are there any special confinement houses, procedures and rituals associated with this?
8. What attention is given to the new-born infant's cord? At what distance from the umbilical cord is it cut out and does cutting occur before or after the delivery of the placenta?
9. Are there any special treatments for new-born infants i.e. smearing with oil, or other substances; or washing in the sea?
10. Is there any customary deformation of infants e.g. headbinding, piercing of the ear lobes, etc.?

11. Are there any post-childbirth rituals or rules which the mother must follow?
12. In addition to mother's milk are special foods (e g. for spiritual or nutritional reasons) given to the infant, especially in its early days?
13. Is breast milk ever regarded as "bad" for the infant? Is "bad" milk, associated with one breast only?
14. When is breast feeding started? How long is it prolonged?
15. Is there any belief about difficulties of breast feeding, and what is done in such circumstances?
16. When are supplements given? What types of supplements and which methods of preparation? How are supplements fed to the baby (e.g. by hand, spoon, cup?)
17. Is breast feeding stopped abruptly or gradually?
18. Is there any belief about isolating the child from the community or about providing it with food separately stored from that of the community?
19. Where mother's lactation is poor or in case of maternal death, what arrangements are made for infant feeding?
20. During lactation: is the mother diet altered from normal in any way because of beliefs?
21. Are male and female infants regarded as of equal importance and treated identically?
22. In case of twins, are both equally encouraged to survive?
23. Do infants usually accompany their mothers on most occasions (to the gardens, etc.) or are they left in the care of older children or other people in the village?
24. Do small children usually remain in the parental home, or are they sometimes (or often) sent to live with others, and why?
25. For how long after birth of an infant is it customary for the mother to refrain from co-habitation, and for what reasons?

III. NUTRITION

1. What is the staple food of the area? Which beliefs (myths) are related to the staple food?
2. What supplementary foods are used?
3. When is the planting season?
4. Is the community self-sufficient in food-production; or does it depent on trade for the acquisition of certain important foods?
5. Is there a regular food shortage during certain seasons?
6. Are certain foods stored? If so, in what and for how long?
7. In the case of aged or incapacitated persons what is the customary means of maintaining their food supplies?
8. Is the ownership of certain food-sources (e.g. pigs, coconuts, etc.) restricted to leaders or persons of rank? Is social prestige based on this ownership?
9. What are the beliefs concerning influence causing a poor garden?
10. Are there restrictions on types of food eaten by certain social age or sex groups, and are these restrictions permanent or seasonal? (e.g. are there any stringent mourning taboes on the use of certain foods?)
11. Are there any foods which are believed to promote good health, or which favourably assist the course of an illness?

12. Do the staples or any other of the traditional crops grown have ritual significance?
13. Are there any other psychological attachments to particular crops which are significant?
14. In what way are the factors mentioned in (12) and (13) likely to influence attitude towards the acceptance of new food crops and their cultivation?
15. What cooking facilities and methods are used? Knowledge and beliefs in the effects of various methods?
16. Is there any preference to prepare the food manually or mechanically? (for example a mill). Who is the owner of the mill?
17. What is the number and type of the meals? At what times?
18. How is the distribution of the food within the family? Are meals being taken together?
19. Are there (community) meals for special occasions? How are they related to the social structure?
20. Are religious and other food taboes strictly observed? Is there a difference between social classes, and why?

IV. DISEASE IN GENERAL

1. Does disease represent an appreciable economic loss?
2. What are the differences of age and sex in this respect?
3. Is treatment applied under all conditions or is it omitted in hopeless cases?
4. Does the idea exist: "It is to the common interest to get the sick individual well again"?
5. Is there one generally accepted "theory" of disease (e.g. "Disease is caused by sorcery" or "by taboe violation" or "disease is the work of spirits" or a "sanction of angry gods"?)
6. If several of these theories are found simultaneously is there one which is used more generally than the others?
7. Is there consistency in the attribution of a certain disease theory to certain clinical symptoms, or are the same clinical symptoms explained by different theories in subsequent cases?
8. How far does the theory of disease influence the "diagnostic methods" (Divination)?
9. How far does the theory of disease influence the therapeutic measures? Are there specialists among "medicine-men" for specific troubles? How is their training?
10. How far does the theory of disease influence the attitude of the sick toward their own disease, or of their fellows toward them?

V. A GIVEN DISEASE UNDER CONSIDERATION

1. Is there a special name for the condition under consideration, and if descriptive, what is the English equivalent?
2. What is believed to be the cause of the particular condition and what are the supernatural and natural factors believed to be concerned with its spread?
3. Are these causes believed to apply to all sex-age groups equally (e.g. to young children?)
4. Are endemic or epidemic conditions recognised?
5. Are there any customs indicating the knowledge (even if only partially understand) of contagion, infection or infestation due to insects or worms?

6. Are recurrences regarded as a new condition or a continuation of the old?
7. Is it believed that the condition can be cured or its course halted, and if so, what are the natural or supernatural agencies invoked?
8. What are the ways (if any) by which it is believed this condition can be prevented or avoided?
9. Does suffering from the condition affect the social acceptability of the patient and is it believed that he can somehow convey his sickness to others?
10. How is the patient treated? (private or, when spirits are invoked, public treatment).

VI. THE PATIENT

1. Does the patient develop a feeling of insecurity and guilt because of the economic consequences of his diseases?
2. Is the sick man conscious of the economic losses he causes, and what are his reactions towards the problem?
3. Is he indifferent towards this problem either because it is objectively solved in a satisfactory way or because, subjectively, other aspects of his disease preoccupy him more?
4. Is he mentally any different from the healthy members of his society?
5. Does he feel isolated?
6. Does he indulge in self-pity, analyzing his pains and symptoms?
7. Is he preoccupied with the problem of his possible death, its supernatural or natural aspect, and what is his affective reaction?
8. Has he feeling of inferiority (being physically invalid, being supernaturally weak)?
9. Has he feeling of guilt (regarding the disease as a supernatural sanction)?
10. Has he a feeling of hatred (regarding, with or without reason, the disease as being produced by somebody else, by his social situation, etc.)?
11. Has he a feeling of satisfaction (being more interesting and better cared for than usual)?
12. Does he have a feeling of superiority (undergoing a privileged experience)?
13. Does the sick man regard the attitude of his fellows as just or unjust, as adequate or inadequate?
14. Does the sick man believe in treatment applied or does he ask for the trial of several treatments?
15. Whom does the sick man consult for treatment and does he believe in the healer rather than in the treatment?
16. Are the reactions of the sick man towards his disease proportional to the gravity of his case in our sense, or are the exaggerated or subnormal?
17. Has the fact of having been sick far-reaching economical (e.g. debts) or psychological consequences after convalescence?
18. What is done to deal with such consequences?
19. Does the sick man think any of the treatments are any good?
20. Is there any ritual behaviour and a payment between the patient, or his intermediary and the healer?

VII. THE ATTITUDE OF THE COMMUNITY

1. Is the sick man neglected or well treated?
2. Is he regarded primarily with pity, with fear, with awe, with contempt or with anger?
3. Is the tendency to keep the sick man's daily life as much as possible in the rythm, and routine of the life of the community or to isolate him and create a special routine for him?
4. Who bears the economic burden resulting from his illness?
5. Is this burden accepted or resented?
6. Is this problem recognised as such or overlooked because of other aspects of the disease?
7. Who should be responsible for seeing something is done?
8. Does the community expect that the aged or insane people (still) will work for their daily food?
9. When the aged are exempted from certain tasks, and are allowed free food: how is their self-respect?
10. How do the aged appreciate the natural death in relation to the attitude of the community: with fear, with impatience, with resignation?

(continued from page 146)

Let us consider a purely theoretical situation of a meeting between a doctor and his patient. We have no special disease in mind but examine the encounter in just a general way. The same conception applies both to inter- and intra cultural situations, but for the purpose of our explanation let us suppose that a western doctor receives the patient in an intracultural situation.

At this meeting both doctor and patient bring with them their own "intake". Each contributes his own spiritual property and puts it on either side of the scales of the balance of their meeting. We may summarize their intakes as follows:

Intake of doctor and patient at a contact situation

DOCTOR	PATIENT
1. *Personality*, as a resultant of his surroundings and his individual disposition.	6. *Personality* as a resultant of his surroundings and his individual disposition.
2. His *status* within the non-medical framework of the meeting.	7. His *status* within the non-medical framework of the meeting.
3. His specific *role* as a doctor.	8. His specific *role* as a patient.
4. *Image* (either conscious or unconscious) concerning his own task and his way of acting.	9. *Image* (either conscious or unconscious) concerning his own task and his way of acting.
5. *Image* (either conscious or unconscious) concerning the reactions of the patient.	10. *Image* (either conscious or unconscious) concerning the reactions of the doctor.

Explanation

ad 2. the doctor may have the status of a government officer, a member of a mission, a worker in a foreign assistance agency.
ad 3. he acts the role of a doctor as portrayed in the textbooks, (traditions, customs) of his own culture.
ad 4. the directions of his culture are modified by his own individual conceptions concerning the task he has to fulfil.
ad 5. even before the actual meeting takes place the doctor already has formed his concepts about the behaviour of the patient.
ad 7. the patient for instance may be a member of a high class, a certain professional group, a prisoner.
ad 8. the rules of the patient's culture determine his role.
ad 9. there is an interplay between the cultural directives and the patient's own ideas as to how he has to behave himself.
ad 10. the patient has certain expectations from his doctor before he actually sees him.

Points 1, 2, 6 and 7 fall outside our study as we feel that it is more the task of non-medical disciplines, including anthropology, to assess the importance of this part of the mutual intake.
In a given situation in D.countries it is the anthropologist's task to study the part of the intake mentioned under points 8, 9 and 10. He might develop operational indices for these points to find out the elements in the patient's intake which are of relevance to the western practitioner. In order to know what might be relevant for the western doctor, a study of points 3, 4 and 5 is necessary.
We think that the description and *analysis of the doctor's intake* at the meeting with his patients, as mentioned under 3, 4 and 5 are the special tasks of *medical science* in its dialogue with anthropology. The western doctor himself has to become conscious of all the cultural elements which he contributes in the encounter with his patient.
Points 3, 4 and 5 which the western medical practitioner has to study, are phrased rather theoretically from an anthropological point of view. In order to study these elements, their description has to be "translated" into medically intelligible terms.
We suggest that this "translation" should be done in such a way, that the *doctor's intake* can be *phrased in the fundamental six sub-divisions of clinical medicine*: anamnesis, examination, diagnosis, prognosis, treatment and epicrisis.
In doing so, we place the problem of points 3, 4 and 5 in a context that is much more

familiar to the medical practitioner. From this new viewpoint, we can now repeat the same question concerning the doctor's intake in the following terms: When a western doctor meets a western patient, both doctor and patient take many things for granted, because these things are so logical, so familiar and so natural. For the sake of simplicity we will call these things "elements". These elements are not at all special forms of medical technique or specialised features of a particular disease or a special doctor-patient relationship. These elements form a collection of customs, presuppositions, and self-evident facts which are often unconsciously taken for granted because both the western doctor and the western patient are so familiar with them. In a non-western situation these apparently logical elements are not at all so logical or commonly accepted.

In our opinion the task of the western practitioner might well be to track down these elements in his own practice. To begin with the following scheme will illustrate our suggestion with some examples. It may be regarded as the starting point for this kind of methodological approach. (scheme pages 154-155)

For the sake of simplicity we have assumed in this theoretical example that the doctor-patient relationship has already been established; we do not go into the question why this relationship has come into existence. Research on this question of motivation will have to develop according to its own methods. Moreover we have in mind a situation in which a patient consults the practitioner for an obviously organic disease. The scheme might apply to mental diseases too, but examples of this condition have not been chosen for the purpose of these observations.

We think that future research might now be pursued along the following stages:

1. The scheme page 154 has to be extended by members of the medical profession.
2. Medical science can then present the list to anthropology as a compilation of the intake of the western practitioner in the doctor-patient relationship.
3. It will be then the task of anthropologists to devise operational indices for all the elements in the scheme.
4. The next stage in the research follows when health work has to be started in a new intercultural situation, generally when a new health project is initiated in a D.country. Anthropologists might now check up on the value that these elements of western intake have in the culture of the receiving party.

(continued on page 155)

SCHEME 3 – ELEMENTS IN WESTERN DOCTOR – WESTERN PATIENT RELATION

anamnesis

disease is objectifiable
anamnesis is necessary to find it out
there are major complaints and minor complaints in one disease
"normal" things may cause a disease (food)
language (conceptual transfer, see page 17)
truthfulness
modesty

examination

examination is necessary before diagnosis and treatment
there is a difference between examination and treatment
instrumental and impersonal examination may reveal the cause of a disease, independently of the doctor or divine information
a disease is not an elusive entity; it is located somewhere in the body
it may be necessary to repeat or to amplify the examination in order to cure the disease
individual examination may reveal a cause for the disease somewhere in the community; disease is not strictly individual

diagnosis

disease is not a static, indivisible thing; it has a cause (or several causes) which brings about a dynamic, time-consuming process
diagnosis is necessary to determine this cause first
there is often a specific relation between symptoms, diagnosis and treatment
disease can be singular or plural (toothache may be independent of diarrhoea)
disease can be contagious
sex and age are specifically related to the diagnosis
there may be a relation between the disease under consideration and other situations or diseases, at first not considered
it may be impossible to make a diagnosis

prognosis

a disease is an objectifiable thing, it is therefore possible to determine its course factually
the prognosis is subject to errors, as the course of a disease is not an automatic process

the factual prognosis is independent of the role of the doctor (ability and capability **versus authority)**
prognosis is part of treatment
truthfulness as a social value (versus unwillingness to offend by telling the truth)

treatment

treatment is a compelling result of anamnesis, examination, diagnosis and prognosis
treatment may be impossible: hopeless cases
not every disease requires treatment
treatment may have to be repeated
therapy may have to be changed
the effect of therapy in the short run may be not the same as that in the long run
treatment does not necessarily affect the symptoms first
the site and mode of administration of drugs may not coincide with the location of the complaints
there may be only one treatment, or it may be necessary to try out several treatments together, or in succession
treatment may require the disturbance of the inviolability of the body: injection, puncture, surgery
treatment may have severe social consequences: expenses; isolation for contagious diseases
drugs have an objective value, independent of the status of the doctor
drugs are often specific for certain diseases
drugs may cure the disease but have undesirable side-effects
conception of dose and time
prevention as a part of treatment
payment as a part of treatment

epicrisis

relation between the results of the cure and the social **status of the ex-patient**
role and status of the doctor for the results of the cure.

(continued from page 153)

They might, for example, discover that in the culture of the receiving party **the sense of** shame has great importance; that isolation of the sick is a common practice.

5. The western practitioner will thus have a warning signal to indicate which elements in his western medical practice have to be dealt with most cautiously in the new inter-cultural situation.

In the example noted above, the doctor will have to examine his patient with the greatest care in order not to clash with the sense of shame. On the other hand he may expect that his advice to have the patient isolated will not meet with very much resistance.

These simple examples cited above might raise too great expectations from the principle of approach suggested. It should be noted, therefore, that this method cannot guarantee successful medical work. Social behaviour is ultimately unpredictable. A factor that is even more important for the anthropologist is to find out in stage 4 how the elements in the practice of the western doctor are valued by the culture of the D.country. It does not follow, of course, that when there is a cross-cultural meeting, all the people will evaluate the elements in the same way. In cross-cultural contacts other standards than are used in intra-cultural communications may have to be applied. In Asmat life, for example, the principle of reciprocity can be recognised in many relationships, but there were many reasons for believing that this principle of reciprocity did not apply when the people met with western incomers. When in a particular setting people are accustomed to paying for treatment by their own healers, it does not follow that western medicine will necessarily earn greater respect when payment is asked for its services. Probably the most difficult task for anthropology is to find out to what extent intra-cultural values are valid in inter-cultural communications.

But even with these limitations, we think that by the method suggested a better methodological approach can be devised as a guideline for future assistance programmes, than by applying haphazardly some of the conclusions arrived at in case studies carried out elsewhere.

Preventive work

The example of the doctor-patient relationship is the most common and most simple feature of western medicine. The method based on this scheme will probably be most useful for curative work.

It is now generally accepted that in D countries preventive medicine is much cheaper and more effectual for promoting the health of the inhabitants than curative medicine. It might be advisable, therefore, to devise a similar scheme for preventive work, so as to develop a similar method as a guide in future projects. But here we meet with many difficulties.

1. Preventive work often deals with the masses, the community, the society. From an anthropological point of view society is an abstract conception. Society is a collection of individuals, and the conception "society" is not operational.

2. Preventive medicine relies much more than curative medicine on administrative proceedings, mechanical techniques, and organisational mass measures. We feel therefore, that preventive medicine has far more characteristics that are linked to a particular culture than has curative medicine. Here we are faced with the unfortunate dilemma that preventive medicine from a technological point of view can render the greatest contribution to improving the health of D.countries, but its firm cultural links with western civilisation hamper the implementation of preventive measures in D.countries most.
3. As preventive work is still rather in its infancy in western scientific medicine, a conceptual scheme for preventive work has not yet been devised.

Finally we would like to suggest that it is possible that the *scheme for curative medicine*, namely, the six divisions of anamnesis, examination, diagnosis, treatment, prognosis and epicrisis, might be *applicable also to preventive medicine.*

One often gets the impression that preventive medicine consists only of surveys and measures, in other words in examinations and treatment. We feel however that the other phases we have mentioned exist here too. *Burton* (17) has already given an example applied to malaria eradication programmes when he states that a diagnosis must be made before treatment can commence. We will go a step further by stating that in preventive medicine too an anamnesis is the first line of attack. And here again the help of anthropologists could be most valuable, as they could provide an anamnesis of the community in regard to its mass health problems: what does the community (that is: the individuals making up the community) think about the generally prevailing diseases on which preventive mass attacks are being contemplated? What is the general feeling of the society about the possibility and the effect of preventive measures against sickness?

If the outlined scheme of anamnesis, examination, diagnosis, treatment, prognosis and epicrisis, could hold good for preventive medicine too, then the methodological development of this concept would require much theoretical work, before practical guidelines could be derived therefrom. But this joint effort is, we feel, the most urgent task ahead for cultural anthropology and medicine.

jirimbi (parrot)

CHAPTER VII

some fundamental problems

Medical anthropology has made it clear that all programmes of assistance are a process of exchange, a two-way traffic between cultures. This has introduced the problem of the nature of the values that are necessary for a sound evaluation. For too long only "our" values have been considered in this direction, but within recent years the importance of "their" values has been recognised. The difficulty in inter-cultural programmes is to understand each other's values. The question then arises where for a given community does "medicine" stand in the scale of values, and even what exactly does "health" mean? (chapter I, page 19). The definition of health given by the World Health Organisation is: "health is a state of complete physical, mental and social well-being, and not merely the absence of disease and infirmity" (preamble to the WHO constitution). Such an ideal, hundred percent state of health will hardly ever be found. "Good" health generally includes a "normal" amount of disease. (Chapter I, page 20).

And how is the balance between the physical, mental and social to be maintained? Having its roots in natural sciences, western medicine tends to stress the physical aspect more than the mental and social sides. In D.countries especially however the mental and social aspects may by contrast be of greater importance than the physical aspect. This implies that in medical work in D.countries the importance of social and mental well-being can hardly be overstressed. In this definition of physical, social and mental well-being, the way of defining health is analogous to the way of defining culture, meaning a balanced functioning system of knowledge, beliefs, techniques, norms, values, ideologies, attitudes, customs, rituals and symbols. "Cul-

ture" refers to integration; "Disease" to desintegration. This line of thought may enable us to give a better description of the more fundamental task of anthropology in health work. In a given setting the anthropologist paints a picture of the culture concerned. Contrast working then creates a sharper outline of the conception of "disease" with which the medical practitioner has to deal.

Programmes of assistance induce a change in the existing culture. In the medical field few authors have discussed the question to what extent this might be possible or how far it is morally permissible to induce a change. *Verdoorn* (124) was rather negative in his approach. He felt that the old culture had to be destroyed, before a new cultural element could take its place. *Swellengrebel* (118, 119) was worried whether scientific integrity would permit one to carry out medical measures knowing full well that these innovations would be accepted by the people as a result of false conceptions and presuppositions.

In South Sumatra in Indonesia an anti-hookworm campaign by the systematic administration of vermifuges proved to be very successful, because the people believed that anti-helminthic treatment increases fertility.

In a rice growing district in Java a Governmental "planting regulation" synchronised the processes of rice cultivation, in the rice fields, so as to avoid the breeding of mosquitos, which act as malaria vectors. The people obeyed the planting regulations, not because these instructions controlled malaria, but because they corresponded with the pronouncements of the goddess *Nji Sri*, who announces to mankind the day on which the fields must be prepared for the planting of rice.

We think that such problems of conscience need to receive greater attention, especially in programmes of assistance in which the task of anthropology is not confined to counselling, pondering over the risks, and giving guidance by offering suggestions, but also tends, we feel, to seek methods for guaranteeing complete success of the programme.

Here we are getting near to the concept of hidden persuader. The assisting agency not only studies how the programme may be accepted, but also tries to direct the acculturation process entirely according to its own views. This reveals a trend of cultural paternalism which is not consistent with the recognition of different cultures as phenomena possessing their own values.

In this respect it has to be admitted that even the title of this study is not completely free from such a tendency, as the term "introduction" could suggest a much too active handling

of western medicine. The supposition that the introduction of *integrated* health was a new concept for the Asmat reveals a rather ethnocentric starting point. Scientific western medicine quite recently discovered that it had to work within an integrated framework. In primitive societies health and disease are a matter of public and communal concern from the start. A description of this study as "the role of western medicine in a primitive society" probably would have been more appropriate. But this would also have implied an analysis of the influence of the Asmat culture on western medicine. Perhaps this might seem somewhat sophisticated or far-fetched, but since inter-cultural programmes are a meeting between two peoples, the alternative road of the two-way traffic should have been explored more throughly than is suggested by some remarks in this work on western idiosyncrasies in the Asmat project. The maintenance of the term "introduction" in the title expresses that the author could only present incomplete information on this last point.

In the meeting between western countries and D.countries it is therefore clear that the choice is *theirs* whether they will make use of the measures offered to them within the orbit of their own culture and to what extent they are willing to incorporate them into their culture. After all whether assistance offered is to become integrated ultimately is a matter for decision by those who accept assistance and not by those who offer it. We can only offer some constituents of our culture; they have to make their choice. As *Opler* states: "the success of any one particular foreign assistance project is largely irrelevant. The report of the foreign expert may not be accepted or implemented, but if he has furthered the efficiency with which the country's own plan is being carried out by opening new possibilities to its administrator, he can be said to have made an important contribution" (85). Two factors, however, complicate this problem. It is depicted here as if it presented a black and white contrast. In actual fact neither the meeting between the two cultures nor the choice whether to accept or not are really free.

The cultures of the world are no longer separate independent phenomena. Recent technical-economic development has brought all countries close together. To day all peoples in the world exercise an influence over each other. In a sociological sense, the world today is one "oikoumenikos" (*Locher*, 65, 66). No single culture can develop completely indepently of the others, because it is constantly receiving elements from other cultures. D.countries *do* want to narrow the gap in the technical lead of Western countries, and for the sake of their own existence the latter cannot any longer lead an independent existence; they too have to contact and co-operate with the rest of the world. Thus inter-cultural impacts are an inevitable feature of the twentieth

century. We have to find the ways and means of making these impacts as smooth and beneficial as possible. This criterion of a smooth meeting is determined at the point when anthropology changes its function of acting with veiled persuasion and becomes a friend who is a well-wisher and wise counsellor.

Moreover when actual contact takes place, the *choice* for the assisted party is not free. *Foster* (38) underlines: "people often think that they have entire liberty to choose their future, but the rules of cultural change can better be compared to the rules of the table d'hôte dinner: few substitutions are allowed, but if the customer chooses the entrée, he will also take the soup, peas and pie, whether he wishes them or not".

This means that every inter-cultural meeting has its bright side and its shadows. Regarding this relationship between the good effects and the bad side-effects of assisting programmes, two opposite points of view can be put forward with medical examples. They resemble in some way the difference between *zudeckende* and *aufdeckende* therapy in psychiatry.

In offering to carry out a medical programme, the most honest thing to do would seem to be to limit the bad side-effects as much as possible. Thus in eradicating yaws, one may take great care not to import tuberculosis or leprosy in consequences of the inter-cultural contacts. One may even feel oneself responsible for the bad side-effects, that may occur in the future, when a programme with only good results, may not be accepted for reasons beyond the control of the assistance offering agency. In planning a malaria eradication programme, for example, one should consider the disadvantages that might have to be faced, when some years later the programme will not be continued by the assisted people after the departure of the helping party. It would seem to be logical that in such circumstances the foreign demonstrators of the programme should bear a moral responsibility for the possibility of a more serious re-introduction of malaria later. They cannot be excused by complaining that their programme was stopped contrary to their expectations. The apparent free choice of the receiving party to accept or to reject the programme would then have very "unfree" consequences.

Those who adhere to the opposite point of view feel that there is much hypocrisy in the former attitude of trying to give prominence as much as possible only to the good effects. Those who believe in the latter line of thought lay stress on the fact that western culture has dark and light sides, and that therefore it is only fair to explain both the good and bad effects as clearly as possible. Looked at in this way

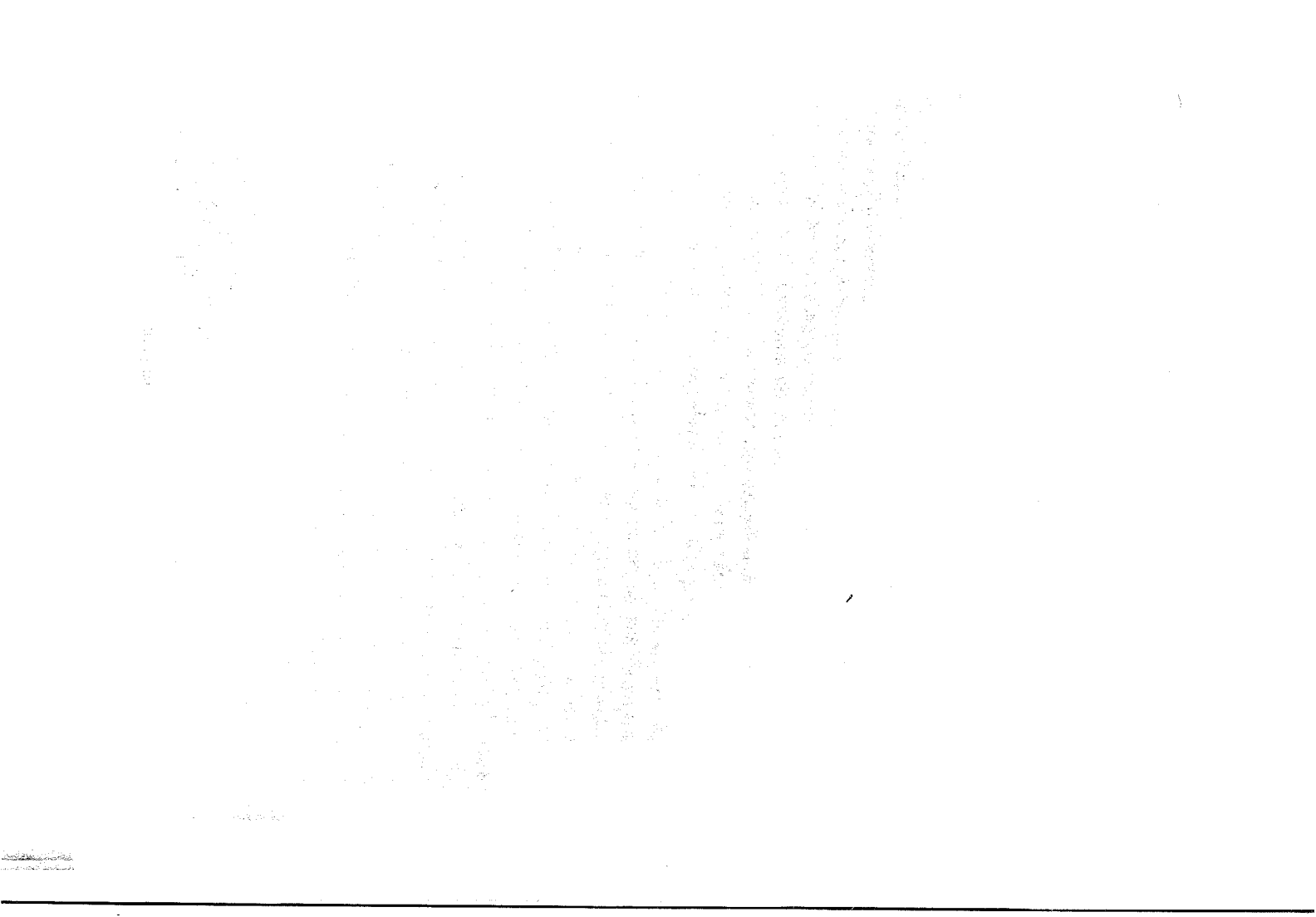
it is open to question whether one should avoid every symptom of western ambiguity, as has been rather frowned upon earlier in this study.

It is after considering each of these two aspects, that one has to make one's own decision in each individual case. Agreeing with reflections by *McDermott* (69), *Foster* (38) *and Swellengrebel* (118, 119), this analysis of the cultural context of health programmes points to the conclusion that the most fundamental problem lies in the individual's own responsibility. Health programmes ultimately are not medical, financial, political or cultural problems, but real human problems. Culture may contribute much to the development and final outline of individual responsibility, ultimately it is the free man himself who occupies the central position. We therefore agree with the authors mentioned above that medical assistance programmes are ultimately decided by ethical and moral considerations. As *Baumgartner* (10) proclaims so well: "all of us, Westerners and non-Westerners, we are all representatives of our own under-developed countries": the answer to the question where do we derive the right and audacity to start assisting other under-developed countries, can only be found in Man himself.

The western agressiveness in rendering assistance finds its justification somewhere on the scale between inevitability, economic possibilities and political urgency to Christian vocation.

The Asmat peoples themselves made no problem of this point. It was very obvious to them that all western incomers were the descendants of their old brothers, who in olden times had had better luck in the material and physical sides of life. These descendants had now returned to their homeland along the Arafoera sea, to return a just share of this common wealth to the present day Asmat people. The Asmat people thus demonstrated that development programmes are really interhuman encounters, in which we are all equal. They referred to this a hundred times every day in their most common greeting: *ndoromómo*, that is: "we are friends, closely related to each other". We cannot but agree.

pasar (mouse)



summary

The *introduction* presents the three praepositions for this study:

1. Medical work, especially in developing countries, has an important anthropological aspect. The progress of health programmes based on sound medical considerations, sometimes encountered unexpected difficulties or even ended in failure because one had not taken into account the culture or the people assisted.
2. Integrated rural health is the most useful form of medical work in developing countries. This has a twofold meaning. In the health programme there must be a balance between basic research, curative and preventive care, health education and environmental sanitation. Moreover such a project can only be successful if the expansion of the medical work keeps pace with the administrative, political, economic and educational development.
3. For a sound evaluation of a health project, one has to consider, besides the favourable results, the motives for starting, the expansion and changing the programme, the shortcomings and failures of the health work and the relationship between medical activities and general developmental schemes.

The case study of this book is a health project in the Asmat region in West New Guinea. It has two features which form a unique combination in the world: from the very start the programme was aimed at an integrated health project. Secondly, until 1954 the head-hunting Asmat people, served by the health work, lived in a stone age region, untouched by the western world.

Chapter one describes the historical contacts of medical and social science with today's developing countries, resulting in a new inter-discipline between cultural anthropology and medicine: medical anthropology. The review of the literature on medical anthropology first presents case studies, then general theoretical viewpoints. The task of the social scientists in the health setting is described.

Chapter two depicts the Asmat region and its peoples as the geographical and ethnological setting of the case study. Sago as the staple food and the head-hunting ritual represent important values in the Asmat culture. The hygienic and medical conceptions are considered in their cultural contexts.

Chapter three describes the contacts of the outside world with the Asmat region and the Asmat people. Political and economic consideration often outweighed the interests of the population. The chapter concludes with an outline of the administrative framework of the health project.

Chapter four is the case study of the introduction of integrated rural health in the Asmat region. From 1954 until 1956 basic medical surveys supplied the necessary information which enabled a plan to be devised for the future health work. Much attention was paid to preventive medical work. The attitude of the administration towards the population was balancing between a negative and a positive approach.
Between 1956 and 1958 a mass campaign for the control of yaws curtailed the major health problem of the region, whilst a small curative service was organised in addition.
Between 1958 and 1962 the Asmat was an independent medical district and the medical activities were carried out to their fullest extent as integrated rural health. The first year the work met with a varying measure of success due to points of difference between the policies of the administration and the health workers. During the last three years the health work expanded most favourably in close relation to the general development projects. Examples are given according to this last mentioned context.
In the *social-economic development* a better housing programme was of interest for a future malaria control campaign. The targets set could not been reached through lack of sufficient control, whereas medical disadvantages: a greater risk of bronchial infections, gradually became clear.

Experiences in establishing village health centres illustrate the difference between the conceptions held by the administration and the health authorities about medical work. Although the nutritional condition of the Asmat people was fairly good, the members of some villages or age groups suffered some shortage of food as a result of the new conditions. As a consequence of the social-economic development, much attention was paid to diseases which originally did not prevail in the Asmat.
The *pacification*, the opposition to head-hunting customs, implicated *mental health problems*. The consequences of intervention by the administration after a head-hunting raid are described. In another instance many adult men could not find a girl to marry. The undermining of the established authorities as a result of the new conditions sharply outlined the question what approaches western medicine had to make towards the Asmat medical practices. Ambiguity in the attitude of the western incomers, had many bearings as a mental health problem.
For the *medical-technical development* the policy in the building programme of a new hospital demonstrates the attempt to place the health work as much as possible in the midst of the Asmat people. A proposal to introduce payments for curative help for educational reasons, could not be realised. The outcome of six years of yaws campaigns suggests that good results can be reached only when such preventive work is done in harmony with the over-all development. Mother and child health care was launched before enough information had been collected concerning this subject. After four years the results were rather disappointing. The health education work tried to find new ways. A mere didactic approach did not meet with great success, quite simple techniques gave promise of better results.
An over-all example of a whooping-cough epidemic illustrates the fact how apart from medical and cultural arguments, motivations from the field of general development contributed to the decision not to start an immunization campaign.
Finally the chapter summarizes the medical situation in 1962.

Chapter five assesses the health work described in chapter four. Both the western and the Asmat points of view have to be considered.
For the evaluation from the western point of view a medical-technical and a medical-anthropological approach are used. The last method tries to find out how far Asmat cultural values were considered in the western health work.
In the medical-technical approach both the cost and the speed of the Asmat programme

were rather unusual factors. Many examples from various countries suggest that midwifery can be performed best by autochthonous healers at home. This might well have been a better guideline for the Asmat project than the motives for the work actually carried out. Political arguments for the organisation of a yaws campaign are rather disapproved. The pyramid system for curative and preventive health work is a type of organization much appreciated all over the world. In the Asmat this system proved to be most useful too. Major attention is paid to preventive medicine, this is the most positive point in the medical technical evaluation. Preventive medicine is also looked upon as an attempt to prevent the importation of diseases which originally did not prevail in the region.

From a medical-anthropological point of view the absence of adequate cultural studies before and during the implementation of the health work was an important negative factor in the evaluation. In the better housing programme attention was not paid to the semi-nomadic way of life of the Asmat people. Failure of the payment scheme could be attributed to negligence in not ascertaining the Asmat conceptions concerning the position of the western incomers.

Some arithmetical yardsticks are proposed to measure evaluations from the Asmat people's point of view. This method however proved to be rather unsatisfactory. Our search for the opinions and feelings of the Asmat people concerning the western health work did not reveal enough information for an allround evaluation. Probably the Asmat people had rather ambiguous views about it.

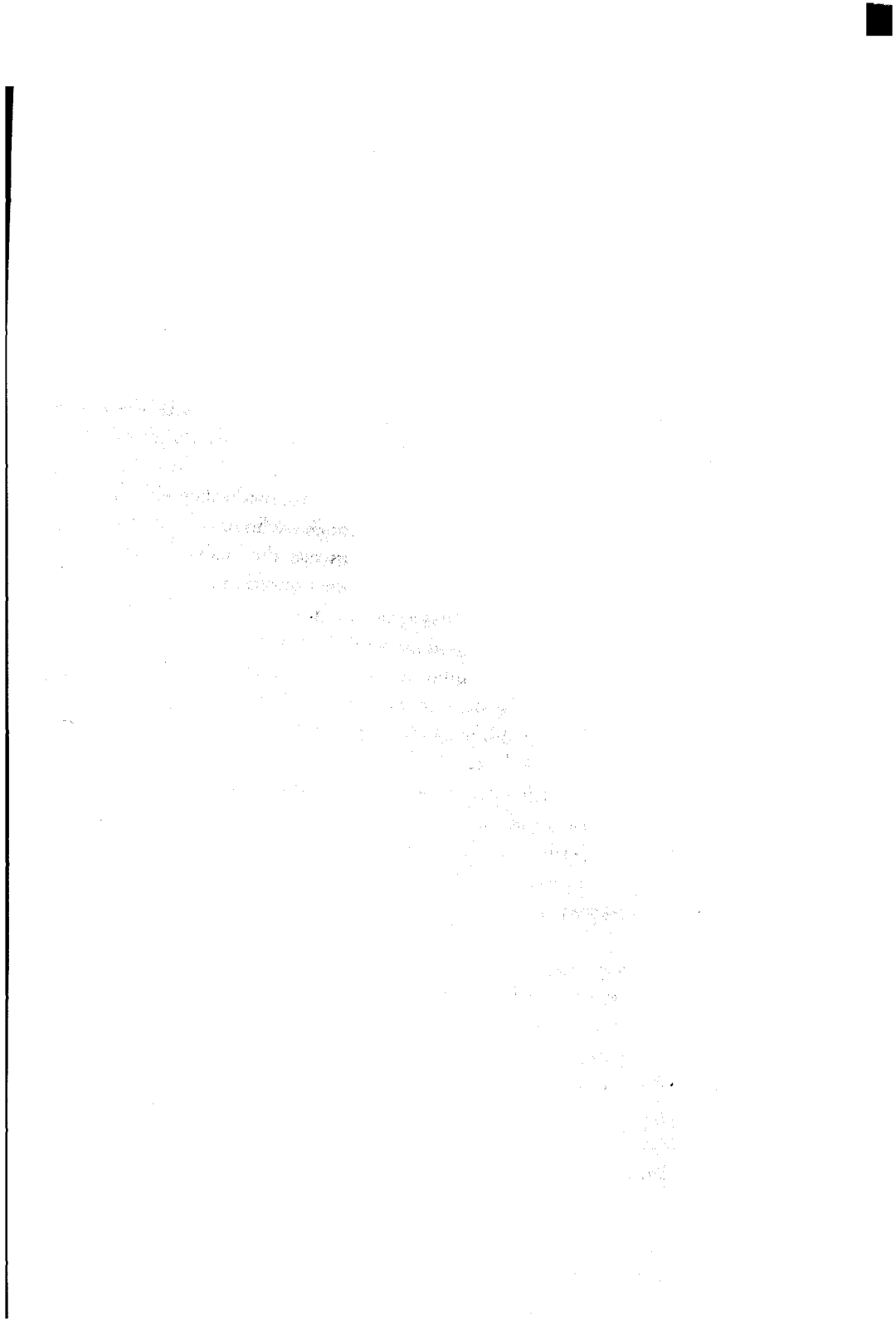
An example is offered to show how cultural factors explain the ambivalent attitude of the Asmat people towards injections. The treatment of some patients who had been diagnosed as suffering from black magic can be accredited as a positive appreciation of the western health work by the Asmat people.

Chapter six offers some reflections about medical anthropology. For practical field purposes a short list enumerates the friction points and pitfalls in the health projects reviewed.

A memorandum may enable one to detect some of the cultural factors in non-western countries, which have a direct bearing on western health work. For future theoretical research in medical anthropology, a method is proposed for analysing the cultural intake of both the western medical practitioner and his patient at their meeting. Part of the doctor's intake can be formulated according to the classical six divisions of

anamnesis, examination, diagnosis, prognosis, treatment and epicrisis. It is the task of the western doctor to trace his culturally determined elements in accordance with these six stages. Based on this theoretical concept, a more rational approach may be possible in the future in the meeting of western doctor and non-western culture. It is even suggested that a similar theoretical approach may enable an analysis of culturally determined elements to be made in the field of preventive medicine.

Chapter seven gives some theoretical reflections about health programmes in developing countries. Paternalistic trends are diagnosed and placed opposite the requirements of free choice by the people.
Intercultural assisting programmes ultimately do not depend on medical, political, economic or even cultural factors; it is Man himself in his totality who has to take the responsibility and make decisions. Ethical considerations are the main decisive factors. Intercultural health programmes are true inter-human meetings.



samenvatting

De drie uitgangspunten voor deze studie worden in de *inleiding* uiteengezet.

1. Het medische werk in ontwikkelingslanden heeft een belangrijk anthropologisch aspect. Sommige gezondheidsprogramma's resulteerden niet in het verwachtte succes omdat onvoldoende rekening was gehouden met de cultuur van de betreffende bevolking.
2. Het medische werk in ontwikkelingslanden komt het beste tot zijn recht indien het uitgevoerd wordt als geintegreerde gezondheidszorg. In het medische vlak dienen curatieve en preventieve geneeskunde, gezondheidsopvoeding, opleiding en algemene hygienische maatregelen in een harmonische verhouding tot elkaar te staan. Daarnaast zal het geneeskundige werk gelijke tred moeten houden met de economische, culturele en politieke ontwikkeling.
3. Voor een juist inzicht in het effect van medisch werk in ontwikkelingslanden kan men niet alleen afgaan op de eindresultaten, maar dient men ook de motieven te verdisconteren welke ten grondslag lagen aan de opzet, de ontplooiïng en de wijzigingen in het gezondheidsprogramma. Bovendien is het nuttig, indien fouten in het medische werk geanalyseerd worden en de samenhang van de geneeskundige activiteiten met de algemene ontwikkelingsprojecten duidelijk gemaakt wordt.

Het gezondheidsprogramma in het Asmat-gebied op voormalig Nederlands Nieuw-Guinea, het huidige Indonesische Irian Barat, had twee kenmerken waarvan de com-

binatie uniek bleek op de wereld en daardoor de beschrijving ervan rechtvaardigde: het was van het begin af aan opgezet als een geintegreerd gezondheidsproject en het diende een bevolkingsgroep die tot 1954 practisch nog geen aanraking had gehad met de buitenwereld. De koppensnellende Asmatters leefden tot dan toe practisch nog geheel in het stenen tijdperk.

Hoofdstuk een beschrijft de geschiedenis van het contact van de medische en de sociale wetenschap met de huidige ontwikkelingslanden. Hieruit ontstond een jonge discipline: medische anthropologie, welke de geneeskunde beschouwt als deel van een cultuur. Een literatuuroverzicht illustreert deze conceptie met voorbeelden van gezondheidsprojecten in ontwikkelingslanden waar de moeilijkheden hun oorsprong vonden in verwaarlozing van culturele factoren. Vanuit dezelfde conceptie worden enige theoretische gezichtspunten belicht. De rol, die de beoefenaar van de sociale wetenschappen, de cultureel anthropoloog in het bijzonder, kan vervullen bij de uitvoering van medische programma's wordt nader aangeduid.

Hoofdstuk twee beschrijft het Asmat-gebied en zijn bewoners als geographisch en ethnologisch decor van de eigen veld studie. De rol van de sago als hoofdvoedsel en het koppensnellenritueel zijn belangrijke cultuurelementen van de semi-nomadische Asmat bevolking. De relatie van de hygiënische en medische opvattingen hiermede wordt uitgewerkt.

Hoofdstuk drie vermeldt de historische contacten van de westerse wereld met het Asmat gebied. Politieke en economische interessen domineerden vaak over een directe belangstelling voor de bevolking. De administratieve constellatie, waarin het gezondheidswerk zich na 1954 ging afspelen, wordt in hoofdlijnen geschetst.

Hoofdstuk vier beschrijft de motieven voor- en het feitelijke proces van de introductie van geintegreerde gezondheidszorg in het Asmat gebied.
Van 1954 tot 1956 werden er elementaire medische verkenningen verricht, resulterend in een werkprogram waarin de nadruk werd gelegd op de preventieve geneeskunde. De bestuurlijke bevolkingspolitiek was wisselend negatief en positief ingesteld.

Tussen 1956 en 1958 drongen framboesiacampagnes de belangrijkste volksziekte sterk terug en werd begonnen met een eenvoudige curatieve hulpverlening.
Van 1958 tot 1962 kan pas goed gesproken worden van een geintegreerde gezondheidszorg, omdat het Asmatgebied nu een zelfstandige medische eenheid was geworden. Het eerste jaar waren de resultaten wisselend door een diversiteit tussen bestuurspolitiek en medisch beleid. Tussen de jaren 1959 en 1962 neemt het gezondheidswerk in nauwe samenhang met de algemene ontwikkelingsactiviteiten zijn grote vlucht. Gebaseerd op deze relatie worden medische voorbeelden besproken.
Als onderdeel van de *sociaal-economische ontwikkeling* was een huizenverbeteringsprogram van belang voor een toekomstig malaria bestrijdingsproject. Het gestelde doel werd niet bereikt door gebrek aan toezicht, terwijl medische nadelen, met name grotere kans op luchtweginfecties, geleidelijk aan duidelijk werden. De ervaringen bij het oprichten van buitenpoliklinieken illustreren het verschil tussen bestuursvisie en medische visie op het gezondheidswerk. Alhoewel de voedingstoestand van de Asmatters in het algemeen goed was, leverde de nieuwe ontwikkelingspolitiek voedingsproblemen op voor bepaalde dorpen of leeftijdsgroepen. De sociaal-economische ontwikkeling bracht met zich mee, dat veel aandacht besteed diende te worden aan oorspronkelijk niet in de Asmat vóórkomende ziekten.
De problematiek van de *geestelijke gezondheidszorg* in relatie met de *pacificatie* wordt verduidelijkt met een beschrijving van de gevolgen van plotseling bestuursingrijpen na een snelpartij. De pacificatie verminderde de huwelijkskansen van de mannen in enkele kleinere dorpen. De autoriteitscrisis als gevolg van de nieuwe tijd had consequenties voor de samenwerking tussen de westerse arts en de Asmatgeneeskundigen. Tweeslachtigheid in de houding van de westerse wereld in de Asmat was als geestelijk gezondheidsprobleem op tal van plaatsen van invloed op het medische werk.
In de *medisch-technische ontwikkeling* is de bouwpolitiek van het ziekenhuis een voorbeeld van verschil in inzicht omtrent de vraag hoe het best aansluiting gezocht kon worden bij de leefwijze van de bevolking. Een voorstel om betaling in te voeren voor geneeskundige hulp als educatieve factor voor het verwerven van appreciatie voor de westerse geneeskunde, kon niet gerealiseerd worden. In de sector van de preventieve geneeskunde suggereren de cijfers van zes jaar framboesiabestrijding dat goede resultaten alleen bereikt kunnen worden indien dit werk geschiedt in nauwe samenhang met de algemene ontwikkelingstendenzen. De zorg voor moeder en kind werd gepropageerd zonder dat voldoende basisgegevens voorhanden waren.

De resultaten na vier jaar waren teleurstellend. Gezondheidsvoorlichting zocht naar voor het gebied geëigende wegen. Een docerende methodiek werd een mislukking, zeer eenvoudige technieken gaven meer hoopvolle resultaten.
Tot slot wordt een voorbeeld gegeven hoe bij een kinkhoest-epidemie argumenten van medisch-technische, culturele en beleidspolitieke aard er voor pleitten géén vaccinatiecampagne te entameren.
Het hoofdstuk eindigt met een overzicht van de bereikte toestand in 1962.

Hoofdstuk vijf geeft een oordeel over het gezondheidswerk in de Asmat, zoals beschreven in hoofdstuk vier. Hierbij dient én het westerse én het Asmat standpunt tot zijn recht te komen.
Het westerse standpunt kan niet alleen medisch-technisch zijn, maar dient ook medisch-anthropologische maatstaven aan te leggen, dat wil zeggen, de vraag onder ogen te zien hoe het medische werk de Asmatcultuur waardeerde.
Voor de medisch-technische beoordeling zijn de snelheid en de rijkdom van het medische werk ongebruikelijke factoren. De zorg voor moeder en kind blijkt op veel plaatsen ter wereld het beste door autochthone geneeskundigen gedaan te kunnen worden. Dit had voor de Asmat een betere richtlijn kunnen zijn, dan de motieven voor het in feite gevoerde beleid. Politieke redenen voor het organiseren van een framboesiacampagne worden niet hoog gewaardeerd. Het pyramidesysteem voor curatieve en preventieve gezondheidszorg wordt mondiaal gunstig gewaardeerd en voldeed ook in de Asmat goed. De nadruk die gelegd werd op de preventieve geneeskunde, dit tevens gezien als preventie van de import van voor het gebied vreemde ziekten, is de meest positieve waardering in de medisch-technische beoordeling.
Vanuit medisch-anthropologisch standpunt bezien is het ontbreken van voldoende cultureel-gericht onderzoek vóór en tijdens de realisatie van het gezondheidsprogramma de belangrijkste negatieve factor in het waardeoordeel. Het huizenverbeteringsprogramma hield geen rekening met de Asmat voorkeur voor een seminomadische levenswijze. Het mislukken van het betalingssysteem voor curatieve hulp berustte grotendeels op het niet herkennen van de Asmatvisie op de komst van de westerse immigranten.
Voor een waardeoordeel van de Asmatbevolking over het westerse gezondheidswerk worden enige nieuwe rekenkundige benaderingen aangegeven, maar als geheel is

deze methodiek onbevredigend. Een peiling in de gedachtenwereld van de Asmatters levert onvoldoende gegevens op voor een afgerond beeld.
Waarschijnlijk ondervond het westerse gezondheidswerk vaak slechts een tweeslachtige waardering. Het voorbeeld van de ambivalente houding van de bevolking ten opzichte van injecties traceert hiervoor argumenten uit de Asmat cultuur. Slechts de behandeling van patienten met de *diagnose zwarte toverij* kan vrij zeker als een positief punt aangemerkt worden voor de westerse geneeskunde in de ogen van de bewoners van de Asmat.

Hoofdstuk zes bevat beschouwingen over de ontwikkeling van de medische anthropologie.
Voor practisch gebruik wordt een samenvatting gegeven van al die punten uit beschreven gezondheidsprojecten, welke in het verleden moeilijkheden opleverden.
Een memorandum werd gecompileerd voor het opsporen van cultuurelementen, welke direct van invloed zijn voor het gezondheidswerk in niet-westerse culturen.
Voor een theoretische fundering van de medische anthropologie wordt voorgesteld de cultureel-bepaalde inbreng van arts en patient in hun ontmoeting te analyseren. Een gedeelte van de inbreng van de westerse arts kan geformuleerd worden in de klassieke zes-deling: anamnese, onderzoek, diagnose, prognose, behandeling en nabeschouwing. Het is de taak van de westerse arts in deze zes stadia de cultureelbepaalde praeposities op te sporen. Op deze theoretische basis kan in toekomstige situaties een rationelere benadering van de problemen in de ontmoeting westerse arts – niet westerse cultuur nagestreefd worden. Een suggestie wordt gegeven, dat deze theoretische benaderingswijze ook van nut zou kunnen zijn voor een bestudering van de cultureel bepaalde elementen op het terrein der preventieve geneeskunde.

Hoofdstuk zeven beschouwt enkele fundamentele problemen van gezondheidsprogramma's in ontwikkelingslanden.
Paternalistische tendenzen worden opgespoord en geplaatst tegenover de voorwaarde van de vrije keuze van de bevolking. Gesteld wordt dat interculturele gezondheidsprogramma's uiteindelijk niet bepaald worden door medische, politieke, financiële of zelfs culturele factoren, maar dat het de mens zelf in zijn totaliteit is die de verantwoordelijkheid moet nemen en dragen. Ethische problemen geven de doorslag. Interculturele gezondheidsprogramma's zijn echte intermenselijke ontmoetingen.

resumen

En la *Introducción* quedan expuestos los tres puntos de partida de este estudio, a saber:

1. La obra médica en los países en desarrollo tiene importante aspecto antropológico. Algunos programas sanitarios no tenían el resultado esperado, por no haberse dado suficientemente cuenta de la cultura de la población indígena.
2. La obra médica en los países en desarollo tendrá mejor resultado, si forma parte integrante de la sanidad pública. En el sector médico, la medicina curativa y preventiva, educación sanitaria, instrucción y medidas generales de higiene deben ser bien equilibradas entre sí. Al mismo tiempo hay que desarrollar la economía, la cultura y la política.
3. Para obtener clara idea de los resultados de la obra médica en los países en desarrollo, no sólo hay que atender a los resultados definitivos, sino también hay que tomar en cuenta los motivos que forman la base del plan del desarrollo y de las modificaciones del programa sanitario. Además será útil analizar las faltas cometidas en la obra médica, dándose cuenta de la correlación que hay entre las actividades médicas y los proyectos generales de desarrollo.

El programa sanitario en el territorio del Asmat, situado en la antes Nueva Guinea Holandesa, el actual Irián Barat Indonésico, tenía dos características cuya combinación resultó ser única en el mundo, y así ya por sí justificaba su descripción, pues ya desde el principio era ideado como un proyecto sanitario integrado y fue ejecutado entre indígenas que hasta 1954 casi no habían estado en contacto con el mundo de fuera.

Los de Asmat, que eran cazadores de cabeza, vivían hasta entonces casi enteramente en el paleolítico.

El *capítulo primero* describe la historia del contacto de las ciencias médica y social con los países en desarrollo actuales. Así nació una nueva disciplina, a saber la antropología médica, que considera la medicina como parte de una cultura. Una bibliografía aclara este concepto con ejemplos de los proyectos sanitarios en los países en desarollo, donde las dificultades precisamente surgieron por haberse desatendido los factores culturales. Desde el mismo concepto son tratados algunos puntos de vista teóricos. Queda definido el papel que puede desempeñar el que se ocupa de las ciencias sociales y, especialmente, de la antropología cultural en la ejecución de programas sanitarios.

En el *capítulo segundo* se describe el territorio del Asmat y su población, por ser el fondo geográfico y etnológico del propio estudio del caso. El papel del sagú como alimento principal y el rito de la caza de cabezas son elementos culturales importantes de la población semi-nómada del Asmat. Los conceptos higiénicos y médicos son considerados en su conexión cultural.

El *capítulo tercero* trata de los contactos históricos del mundo occidental con el territorio del Asmat. A menudo los intereses políticos y económicos prevalecían sobre el interés directo por la población. A grandes rasgos se describe el cuadro administrativo dentro del cual se iba a desarrollar la obra sanitaria a partir de 1954.

El *capítulo cuarto* estudia los motivos de la introducción de la sanidad pública integrada en el territorio del Asmat. De 1954 a 1956 se realizaron reconocimientos médicos elementares de que nace un programa de trabajo en que predomina la medicina preventiva. La actitud del gobierno para la población fue alternativamente negativa y positiva. Entre 1956 y 1958 las campañas contra la framboesia hicieron disminuir mucho las principales enfermedades de la población, iniciándose una asistencia curativa elementar. De 1958 a 1962 se puede decir que hay una sanidad pública integrada, pues ahora el Asmat había llegado a ser una unidad médica independiente. El primer año los resultados fueron desiguales, debido a la diferencia de pareceres entre el gobierno y los trabajadores médicos. Entre los años 1959 y 1962 la sanidad pública va extendiéndose ,en relación estrecha con las actividades generales de desarrollo. Se da ejemplos médicos, basados en esta relación. Dentro del *desarrollo social-económico*

importaba un programa de mejorar las condiciones de habitación para un proyecto futuro de combatir la malaria. El fin puesto no fue conseguido por falta de supervisión, mientras que venían manifestándose las desventajas médicas, entre ellas sobre todo la posibilidad aumentada de infecciones de las pulmónas. Las experiencias de la fundación de clínicas en las poblaciones, hacen resaltar la diferencia entre las ideas del gobierno y las de los médicos en cuanto a la sanidad pública. Aunque en general la condición alimenticia de los habitantes del Asmat era buena, la nueva política de desarrollo creaba problemas de alimentación para determinadas poblaciones o para determinados grupos. El desarrollo social-económico implicaba que había que dar mucha atención a enfermedades que al principio no se manifestaban en el Asmat. Los problemas de la sanidad mental como resultado de la *pacificación* queda bien a las claras con una descripción de las consecuencias de una intervención del gobierno en una caza de cabezas. La pacificación disminuyó las posibilidades de matrimonio de los hombres de algunas aldeas. La crisis de autoridad como consecuencia del nuevo tiempo tenía consecuencias para la colaboración entre los médicos occidentales y los médicos indígenas. Ambigüedad en la actitud de los occidentales en el Asmat, siendo problema de la *salud mental*, en muchos lugares tenía influencia en la obra médica. En el *desarrollo médico-técnico*, la política en el programa de la construcción de un hospital era un ejemplo de diferentes opiniones acerca de la cuestión como mejor se podía entrar en contacto con la población. Resultó imposible realizar una propuesta de hacer pagar por asistencia médica por razones de educación y para que la medicina occidental fuese apreciada. En el sector de la medicina preventiva las cifras de seis años de lucha contra la framboesia sugieren que sólo se puede obtener buenos resultados si tal obra se realiza en conexión extrecha con las tendencias generales de desarrollo. Las asistencia a madres y reciennacidos fue propagada sin que se contara con suficientes datos básicos. Desilusionaban los resultados obtenidos en cuatro años. La obra de educación sanitaria trataba de encontrar nuevos caminos. Fracasó el método didáctico Técnicas muy sencillas tenían resultados más prometedores. Al final se da el ejemplo de como en una epidemia de tos ferina, argumentos de carácter médico-técnico, cultural y político contribuyeron a la decisión de no iniciar campaña de vacunación. El capítulo termina con un resumen de la situación médica en 1962.

El *capítulo quinto* trata de dar una valoración de la obra sanitaria en el Asmat, como fue descrita en el capítulo cuarto. Hay que considerar tanto el punto de vista de los

occidentales como el de los habitantes del Asmat. El punto de vista occidental no puede ser exclusivamente médico-técnico, sino que debe aplicar asimismo criterios médico-antropológicos, esto quiere decir: ocuparse del aprecio que tiene la cultura del Asmat por la obra médica realizada. Para la valoración médico-técnica, la rapidez y la riqueza de la obra médica son factores poco usuales. Resulta que la asistencia a madres y reciennacidos podrá realizarse por los médicos indígenas. Esto hubiera podido ser para el Asmat mejor criterio que los motivos de la política aplicada. No se estima mucho los motivos políticos para la organización de una campaña contra la framboesia. El sistema piramidal para la asistencia médica curativa y preventiva es apreciado en el mundo entero y también tenía buenos resultados en el Asmat. La mayor atención dada a la medicina preventiva, también para impedir la introducción de enfermedades hasta el momento desconocidas en el Asmat es el punto más positivo en la valoración médico-técnica. Según el punto de vista antropológico, la falta de suficientes estudios culturales antes y durante la realización del programa sanitario, es el principal factor negativo en la valoración. El programa para mejorar las condiciones de habitación no tenía en cuenta el hecho de que los habitantes del Asmat prefieren vivir de manera semi-nómada. El fracaso del sistema de pago por la asistencia curativa fue por gran parte debido a que no se comprendía la actitud de los del Asmat ante los que venían del occidente. Para una valoración por la población del Asmat de la obra sanitaria occidental son indicadas algunas nuevas aproximaciones aritméticas, pero en general esta metodología no es satisfactoria. Un sondeo de los pensamientos de los del Asmat nos da datos insuficientes para formarnos de ellos idea clara y completa. Se puede admitir que en general la obra sanitaria occidental no fue apreciada mucho por los del Asmat. La actitud ambivalente de la población ante la inyección, por ejemplo, es probable que tenga su origen en la cultura del Asmat. Probablemente los indígenas sólo apreciaron la medicina occidental por el *diagnóstico de nigromancia* en el tratamiento de algunos pacientes.

El *capítulo sexto* contiene consideraciones sobre el desarrollo de la medicina antropológica. Para uso práctico se da un resumen de todos aquellos puntos de los proyectos sanitarios descritos que en el pasado eran motivo de dificultades. Fue compuesto cuestionario para hallar elementos culturales que sean de influencia directa en la obra sanitaria de las culturas no-occidentales. Para tener base teórica de la antropología médica se propone analizar el aporte cultural del médico y del paciente en su contacto

mutuo. Parte del aporte de los médicos occidentales puede ser formulada de acuerdo con las seis fases ya clásicas, a saber: anamnesis, examen, diagnóstico, pronóstico, tratamiento y epicrisis. Es la tarea del médico occidental trazar en estas seis fases los elementos culturalmente determinados. En esta base teórica será posible en el futuro tener en cuenta de manera más racional los problemas que se presenten en el contacto entre los médicos occidentales y las culturas no-occidentales. Tal base teórica asimismo pudiera ser útil al estudiar los elementos culturales en el sector de la medicina preventiva.

El *capítulo séptimo* trata de algunos problemas fundamentales de los programas sanitarios en los países en desarrollo. Son estudiadas las tendencias paternales, comparíndolas con la condición de libre elección de la población. Es que los programas sanitarios interculturales no acaban por determinarse por factores médicos, políticos, financieros o culturales, sino que es el hombre mismo en su totalidad quien debe asumir su responsabilidad y tomar sus decisiones. Las consideraciones étnicas son los principales factores decisivos. Los programas sanitarios interculturales son auténticos encuentros interhumanos.

ichtisar

Didalam *pendahuluan* dikupas tiga pokok uraian ini.

1. Pekerdjaan kedokteran *dinegara-negara berkembang* mempunjai sudut antropologis jang penting. Beberapa rentjana akan memeliharakan kesehatan tidak membawa hasil baik jang diharap sebab peradaban rakjat jang berkepentingan kurang diperhatikan.
2. Pekerdjaan kedokteran dinegara-negara berkembang membawa kepada hasil jang terbaik djika pekerdjaan itu diusahakan sebagai pemeliharaan kesehatan jang tiada terpisah dari usaha jang lain.
   Dilingkungan pekerdjaan kedokteran maka ilmu kesehatan akan menjembuhkan orang (pemeliharaan kesehatan aktif) dan ilmu kesehatan akan mentjegahkan penjakit (pemeliharaan kesehatan pentjegahaan), pendidikan untuk memeliharakan kesehatan, pendidikan umum dan tindakan umum akan memeliharakan kebersihan harus seimbangan satu dengan jang lain.
   Disamping itu usaha pemeliharaan kesehatan harus dilaksanakan bersama-sama dengan segala kemadjuan dilingkungan ekonomi, kebudajaan dan politik.
3. Untuk mendapat penglihatan benar dari dajaguna usaha pemeliharaan kesehatan dinegara-negara berkembang djangan orang hanja tindjau hasilnja melainkan harus memperhitungkan pula segala alasan jang berdasarkan rentjana, madjunja pelaksanaan dan segala perubahan rentjana pemeliharaan kesehatan itu.
   Lagi pula ada gunanja djika segala kesalahan dalam pekerdjaan pemeliharaan kesehatan dikupas dan perhubungan diantara segala usaha kesehatan ini dan segala pembangunan unum diterangkan.

Rentjana pemeliharaan kesehatan didaerah Asmat di Nederlands Nieuw-Guinea jang dulu, sekarang Irian Barat Indonesia, mempunjai dua tanda jang kombinasinja tidak ada bandingja didunia dan sebab itu baiklah diuraikan disini:
dari permulaannja rentjana tersebut dimaksud sebagai suatu rentjana jang harus dikerdjakan bersama-sama dengan segala usaha lain dan rentjana ini bertudjuan kepentingan suatu golongan rakjat jang sampai pada tahun 1954 hampir belum ada hubungan dengan dunia luar. Sampai pada waktu itu pengajau Asmat sedang hidup dimasa batu.

Bab jang pertama menggambarkan permulaan dan seterusnja perhubungan ilmu kedokteran dan ilmu sosial dengan negara-negara berkembang. jang sekarang ini. Dari perhubungan ini timbul suatu ketertiban baru: Antropologi – kedokteran (ilmu bangsa-kedokteran), jang memandang ilmu kedokteran sebagai suatu bagian dari kebudajaan atau peradaban rakjat. Suatu dafter kepustakaan menerangkan pemandangan ini dengan tjontoh[2] berbagai rentjana memeliharakan kesehatan dinegara-negara berkembang dimana terdjadi kesukaran[2] oleh karena orang kurang memperhatikan fakor-faktor peradaban.
Dari pemandangan inipun diterangkan beberapa mata pandangan teoretis. Pun diterangkan apa jang dapat dikerdjakan oleh jang berkerdja dibidang ilmu sosial, terutama seorang antropoloog kebudajaan (ahli ilmu bangsa kebudajaan), jang ikut bekerdja dalam rentjana pemeliharaan kesehatan.

Bab kedua menggambarkan daerah Asmat dan penduduknja jang berupa dekor setjara geografis dan etnologis dibidang peladjaran seorang dokter dalam praktek. Sago sebagai makanan jang terpenting dan upatjara mengajau memegang peranan jang besar dalam peradaban orang Asmat jang biasanja berpindah-pindah tempat.
Diterangkan lebih landjut perhubungan diantara peradaban ini dan anggapan kebersihannja dan kedokterannja.

Bab ketiga menerangkan sedjarah perhubungan dunia barat dengan daerah Asmat. Atjap kali lebih dari pada perhatian untuk kebutuhan rakjat maka kepentingan politik dan perekonomian diutamakan. Dalam garis besar digambarkan susunan dan kedudukan keperintahan dalam lingkungan mana pekerdjaan kedokteran dapat dilaksanakan sesudah tahun 1954.

Bab keempat menggambarkan segala alasan untuk menjelenggerakan usaha memeliharakan kesehatan sebagai suatu usaha jang tiada terpisah dari usaha jang lain. Pun menggambarkan permulaan atau pembukaan usaha tersebut didaerah Asmat. Dari tahun 1954 sampai dengan tahun 1956 telah diadakan pemeriksaan[2] kedokteran pendahuluan. Atas dasar hasil pemeriksaan ini disusun suatu rentjana kerdja dalam rentjana mana usaha pemeliharaan kesehatan akan mentjegahkan penjakit diutamakan. Politik keperintahan berganti-gantian dalam hal ini berupa nafi dan isbat.

Diantara tahun 1956 dan 1958 didjalankan beberapa usaha mentjegahkan penjakit rakjat jang utama, ialah penjakit framboesia (penjakit patek) dan pada waktu itu dilaksanakan pula usaha sederhana untuk menjembuhkan orang.

Baru mulai dari pada tahun 1958 sampai dengan tahun 1962 boleh dikata telah dilaksanakan pemeliharaan kesehatan jang tiada terpisah suatu dari jang lain sebab daerah Asmat sudah mendjadi kesatuan kedokteran tersendiri.

Tahun pertama tertjapailah hasil berganti-gantian oleh sebab politik keperintahan bertentangan dengan kebidjaksanaan kedokteran. Diantara tahun 1959 dan tahun 1962 pemeliharaan kesehatan amat diperluaskan seimbang dan berhubungan dengan usaha pembangunan umum. Atas dasar hubungan ini dikupas berbagai tjontoh kedokteran.

Dalam lapangan pembangunan sosial-ekonomis disusun rentjana untuk memperbaiki perumahan. Tudjuan usaha ini tidak tertjapai sebab kurang pengawasan - lagi pula lama kelamaan timbul kerugian kedokteran seperti kemungkinan akan pendjangkitan kerongkongan. Apa jang terdjadi waktu didirikan poliklinik[2] diluar kota menggambarkan pendirian pemerintah dan pendirian kedokteran (dinas kesehatan) berhubung dengan usaha pemeliharaan kesehatan.

Meskipun adanja makanan untuk orang Asmat biasanja tjukup, politik pembangunan baru membawa kesukaran makanan bagi beberapa kampung jang tertentu atau beberapa golongan umur jang tertentu.

Berhubung dengan kemadjuan sosial-ekonomis pun harus diberikan perhatian besar akan segala penjakit jang pada mulanja tidak terdapat didaerah Asmat.

Segala kesukaran akan pemeliharaan kesehatan djiwa berhubung dengan usaha perdamaian tjara pembangunan diterangkan pula dengan suatu tjontoh jang menguraikan tindakan pemerintah sesudah terdjadi pengajauan. Usaha perdamaian dari fihak pemerintah mengurangkan kemungkinan akan nikah bagi pemuda[2] dibeberapa kampung ketjil. Akibat djaman baru timbullah kesukaran dibidang kekuasaan dan kesu-

karan itu terdjadi pula dilapangan kerdjasama diantara dokter barat dan dukun Asmat.
Keadaan bertentangan pada fihak kuasa barat didaerah Asmat membawa kesukaran kesehatan djiwa dibanjak tempat dan dari sendirinja membawa pengaruhnja dalam usaha kedokteran.
Dilapangan perkembangan teknik kedokteran politik membangun rumah sakit berupa suatu tjontoh dari pendirian jang bertentangan, ialah mengenai tjara bagaimana sebaik mungkin bisa mendapat hubungan (landjutan) dengan tjara hidup rakjat. Suatu andjuran supaja rakjat membajar pertolongan jang diberikan kepadanja, dengan maksud supaja mereka menghargai bantuan ilmu kedokteran barat, tidak dapat dilaksanakan.
Dilingkungan pemeliharaan kesehatan untuk mentjegahkan penjakit patek maka angka² mengenai usaha pemeliharaan itu selama enam tahun mengandjurkan bahwa usaha itu hanja membawa hasil baik djika usaha tersebut depat dilaksanakan dalam hubungan erat dengan tudjuan perkembangan umum.
Pemeliharaan ibu dan anak dimadjukan sebelum dikumpul tjukup keterangan jang perlu. Sehabis empat tahun hasil mengetjewakan orang. Djawatan penerangan kesehatan didaerah tersebut memeriksa djalan mana dapat dipakai. Suatu pelaksanaan setjara mengadjar gagal. Tjontoh² jang amat sederhana membawa hasil jang tambah pengharapan. Pada penghabisan diberi tjontoh bahwa pada suatu waba penjakit batuk redjan tidak dilakukan penjuntikan atas dasar alasan² teknik kedokteran, peradaban rakjat dan kebidjaksanaan pemerintah.
Bab ini pada penghabisannja memuat tindjauan keadaan jang tertjapai dalam tahun 1962.

Bab kelima memberi ichtiar atas usaha pemeliharaan kesehatan didaerah Asmat jang diuraikan dalam bab 4. Dalam hal ini pendirian barat pun pendirian Asmat diperhatikan.
Tidak patut pendirian barat hanja mementingkan sudut teknik kedokteran melainkan harus menghargakan pula kadar ilmu bangsa kedokteran (Antropologi kedokteran), artinja bagaimana peradaban orang Asmat dihargainja.
Ketjepatan dan nilai usaha kedokteran adalah faktor² jang tidak biasa dibilang dalam hal ichtiar teknik kedokteran.

dimana-mana didunia terbukti bahwa usaha pemeliharaan ibu dan anak dapat diselenggerakan sebaik-baiknja oleh ahli-ahli sebangsa.

Pedoman ini untuk Asmatpun lebih baik daripada alasan jang dipakainja tadi. Alasan politik untuk melaksanakan usaha pemberantasan penjakit patek tidak dihargai. Sistim limas jang dipakai dalam usaha pemeliharaan kesehatan aktif dan usaha pemeliharaan kesehatan pentjegahan dihargai diseluruh dunia, begitupun didaerah Asmat. Bahwa usaha pemeliharaan kesehatan pentjegahan diutamakan, pun sebagai pentjegahan pemasukan penjakit[2] baru jang belum dikenal didaerah tersebut, berupa penghargaan jang paling positif dalam hal pertimbangan teknik kedokteran. Kalau dipandang dari sudut antropologi kedokteren, faktor jang paling negatif dalam hal penjelenggerahan rentjana pemeliharaan kesehatan adalah bahwa peradaban rakjat kurang diperiksa sebelum dan sewaktu rentjana itu didjalankan.

Dalam hal rentjana pembikinan rumah baru kebiasaan pengembara orang Asmat kurang diperhatikan. Pun rentjana untuk minta pembajaran atas pertolongan dokter gagal sebab pandangan orang Asmat atas kedatangan orang asing kurang dimengerti.

Dimadjukan tjara berhitung akan menetapkan pendirian orang Asmat akan tetapi tjara berhitung tersebut tidak memuaskan. Keterengan[2] jang terdapat mengenai perasaan dan pendirian orang Asmat terhadap usaha pemeliharaan kesehatan tjara barat tidak tjukup untuk mendapat pandangan tentang pendirian mereka setjukupnja. Kebanjakan pendirian orang Asmat jang satu bertentangan dengan pen dirian jang lain. Sebagai tjontoh dimadjukan pendirian orang Asmat mengenai suntik-menjuntik, pendirian mana rupanja berdasar peradaban mereka. Hanja pertolongan tjara barat atas diagnosa "guna-guna" dihargai oleh orang Asmat.

Bab keenam berisi pemandangan[2] mengenai antropologi kedokteran. Sebuah ringkasan segala kesukaran jang dialami dalam praktek dimuat pula.

Selandjutnja terdapat sebuah daftar pertanjaan jang dapat dipakai untuk mentjahari segala anasir kebudajaan dan peradaban jang berpengaruh usaha pemeliharaan kesehatan tjara barat.

Untuk menetapkan dasar teoretis antropologi kedokteran dimadjukan tjara bekerdja supaja dapat ditimbang anasir[2] kebudajaan dan peradaban baik dari dokter barat maupun dari si-sakit.

Sebagian anasir² jang dibawa oleh dokter barat adalah tjara bekerdjanja, ialah: memeriksa sedjarah penjakit atau perkembangan penjakit, pemeriksaan lebih landjut, diagnosa, prognosa, pengobatan dan pandangan iring.
Adalah tugas dokter barat untuk mentjahari anasir² peradabannja dalam enam tingkat bekerdja ini. Atas dasar teoretis ini dapat dilaksanakan pekerdjaan sama jang lebih berguna diantara dokter barat dan peradaban tidak barat dikemudian hari.
Pun diandjurkan bahwa tjara bekerdja ini berguna pula untuk mengupas anasir² peradaban dilapangan pemeliharaan kesehatan akan mentjegahkan penjakit.

Dalam *bab ketudjuh* dikupas beberapa masalah pokok dinegara² berkembang.
Perlakuan tjara bapak diuraikan dan dimadjukan dihadapan sjarat pilihan bebas dari fihak rakjat. Hasil rentjana² pemeliharaan kesehatan jang saling beradaban pada achirnja tidak tergantung dari pada hal² kedokteran, politik, ekonomi maupun kebudajaan atau peradaban, melainkan seorang manusia sendiri harus insjaf akan pertanggungannja dan harus mengambil keputusannja. Masalah² kemanusian berupa para masalah jang terpenting dan rentjana² pemeliharaan kesehatan jang saling beradaban sungguh² adalah para pertemuan diantara manusia dan manusia.

appendices

I. GENERAL POPULATION FIGURES

1. VILLAGES AND CENSUS

village	*census*	*group*	*map location*
1. Abtatie	+ 174	SA	G 8
2. Agani	573	JP	E 2
3. Agats	344	N	D 5
4. Aikut	136	K	F 9
5. Ajam	1407	SM	E 4
6. Amanamkaj	+ 682	Be	F 6
7. Amaru	196	K	G 9
8. Ambisu	293	Be	F 7
9. Amborep	539	SM	D 6
10. Amegas	93	K	G 8
11. Amian	133	K	G 8
12. Amkan Amkai	251	K	G 10
13. Amsupeh	+ 101	K	G 9
14. Ao	251	KN	C 3
15. As Atat Nakaj	676	KN	C 2
16. Atakamu (eru)	125	K	G 8
17. Atamut	+ 139	Be	E 6
18. Atsj	+1163	Be	E 6
19. Awemu	+ 100	JP	G 2
20. Awok	121	KM	G 5
21. Aworket	344	SP	F 9
22. Baintambor	358	B	E 8
23. Bajun	323	B	E 8
24. Bakair	268	B	F 8
25. Baous	135	B	F 8
26. Basim	608	B	E 8
27. Betjew	142	SM	F 4
28. Bine	+ 256	Be	G 6
29. Bipum	+ 115	Be	G 6
30. Biwar- on Sor-	100	KM	F 5
31. Biwar- on sea-	+ 509	Mbe	D 6
32. Bu	665	JP	E 2
33. Buepis	454	B	E 8
34. Buet	130	SM	H 4
35. Cookbaai (Cookbay)	11	M	E 9
36. Damen	162	KM	F 5
37. Dertambor	231	B	E 8
38. Emine	273	S	F 9
39. Emo Espeno	75	KN	D 2
40. Erma	+ 696	JP	D 3
41. Eru-Cookriver-	96	K	G 9
42. Ewer	696	Bi	D 5
43. Fos	189	Km	G 6
44. Gagare	279	K	G 9
45. Irogo	232	KN	D 2
46. Jamas Jeni	+ 837	KN	C 4
47. Jaosokor	397	KM	F 5
48. Jaun Jufri	578	KN	D 4
49. Jepem	401	Bi	C 5
50. Jinak	243	KM	J 5
51. Jipajer	709	JP	E 3
52. Jow	+ 473	Be	E 7
53. Juni	101	SM	G 4
54. Kaai	50	KM	K 5
55. Kainem	146	SA	G 8
56. Kaimo-Cook river	+ 182	SA	F 9
57. Kaimo-islandriver-	289	KM	G 5
58. Kajerin	310	S	E 9
59. Kamur	164	A	G 8
60. Kapi	307	KN	C 3
61. Kauem-Cookriver-	120	K	G 9
62. Kauem-Kronkelriver-	150	K	G 8
63. Kogir	52	K	G 10
64. Komor	779	JP	E 3
65. Kowet	193	Be	F 7
66. Manep	887	JP	F 3
67. Momogo-Sagopo	295	JP	F 2
68. Monu	962	JP	F 3
69. Nanew	433	BT	F 8
70. Ogomot	131	SA	G 9
71. Omadesep	+ 695	Be	E 7
72. Os	64	KM	G 5

	village	*census*	*group*	*map location*
73.	Otjanep	1068	BT	E 7
74.	Owus	504	Bi	D 6
75.	Per	365	Bi	C 6
76.	Piramat	130	B	F 8
77.	Pirimapun	393	S	E 9
78.	Pupis	+ 187	JP	E 2
79.	Samun	413	S	F 9
80.	Sanem	80	S	F 9
81.	Saowa	+1005	JP	D 3
82.	Sej/Ar-Danim	+ 216	Be	F 6
83.	Semendoro	361	S	F 10
84.	Seremit	137	A	F 8
85.	Simsagar (Tjimara)	529	B	F 8
86.	Sinagap	184	B	F 8
87.	Sjuru	+ 697	Bi	D 5
88.	Sogoni	+ 207	Be	H 6
89.	Tareo	763	S	G 10
90.	Tjemor	212	JP	G 2
91.	Tjowew	126	Be	F 7
92.	Tsuage	29	A	H 8
93.	Warkaj	+ 79	Be	F 7
94.	Warse	+ 631	SM	E 5
95.	Wasegin	107	K	G 9
96.	Wasegoj	41	S	F 9
97.	Wejo	99	JP	E 2
98.	Wiear	165	A	G 8
99.	Wooi	165	KM	K 5
100.	Immigrants outside Agats and Cookbay	155	M	
		33.840		

explanation

No. 100: missionaries, teachers, traders not-residing in Agats or Cookbay. Agats and Cookbay have a mixed population of immigrants from outside the Asmat, Asmat people and some Awju, Kajagar and Sawuj people.
Some villages outside the controlled area: Jesoko, Sagopo and Ti are not included in this census.
All figures are taken from the District Health Centre 1961 census; except those marked +, which are taken from the 1960 DHC census.
names in ( ): synonyms for village names
names in – –: location of village in case of two villages with the same name.

abbreviations:

A	Awju	KM	Kaimo group
Be	Betjembup	KN	Kainak
Bi	Bismam	M	Mixed population
BT	Batia	SA	Sawuj
JP	Jopmagau or Keenok	SM	Simaj
K	Kajagar	S	Sapan

2. ASMAT, CENSUS OF CULTURAL GROUPS

1. *Downstream group*

32 villages, 13.715 inhabitants

Bisman

1. Ewer	696
2. Jepem	401
3. Owus	504
4. Per	365
5. Sjuru	+ 697
5 villages	2663

Simaj

1. Ajam	1407
2. Amborep	539
3. Betjew	142
4. Buet	130
5. Juni	101
6. Warse	+ 631
6 villages	2950

Kainak

1. Ao	251
2. As Atat Nakaj	676
3. *Emo Espeno*	75
4. *Irogo*	232
5. Jamas Jeni	+ 837
6. Jaun Jufri	578
7. Kapi	307
7 villages	2956

Betjembup

1. Amanamkaj	+ 682
2. Ambisu	293
3. Atamut	+ 139
4. Atsj	+1163
5. Bine	+ 256
6. Bipum	+ 115
7. Biwar-on sea-	+ 509
8. Jow	+ 473
9. Kowet	193
10. Omadesep	+ 695
11. Sej/Ar-Danim	+ 216
12. Sogoni	+ 207
13. Tjowew	126
14. Warkaj	79
14 villages	5146

2. *Upstream group*

23 villages, 8.949 inhabitants

Jopmagau or Keenok

1. Agani	573
2. Awemu	+ 100
3. Bu	665
4. Erma	+ 696
5. Jipajer	709
6. Komor	779
7. Manep	887
8. Momogo/Sagopo	295
9. Monu	962
10. *Pupis*	+ 187
11. Saowa	+1005
12. Tjemor	212
13. *Wejo*	99
13 villages	7169

Kaimo group

1. Awok	121
2. Biwar-on Sor-	100
3. Damen	162
4. Fos	189
5. Jaosokor	397
6. *Jinak*	243
7. *Kaai*	50
8. Kaimo-island river-	289
9. Os	64
10. *Wooi*	165
10 villages	1780

3. *Casuarinecoast*

21 villages, 7.699 inhabitants

Batia

1. Baintambor	358
2. Bajun	323
3. Bakair	268
4. Baous	135
5. Basim	608
6. Buepis	454
7. Dertambor	231
8. Nanew	433
9. Otjanep	1068
10. Piramat	130
11. Simsagar	529
12. Sinagap	184
12 villages	4721

Sapan

1. Aworket	344
2. Emine	273
3. Kajerin	310
4. Pirimapun	393
5. Samun	413
6. Sanem	80
7. Semendoro	361
8. Tareo	763
9. Wasegoj	41
9 villages	2978

4. *Non-Asmat groups, immigrants*

Awju, Kajagar + Sawuj people: 21 villages, 2967 inhabitants

Kajagar	
1. Aikut	136
2. Amaru	196
3. Amegas	93
4. Amian	133
5. Amkan Amkaj	251
6. Amsupeh	+ 101
7. Atakamu (Eru)	125
8. Eru-Cookriver-	96
9. Gagare	279
10. Kauem-Cookriver-	120
11. Kauem-Kronkelriver-	150
12. Kogir	52
13. Wasegin	107
13 villages	1839

Awju	
1. Kamur	164
2. Seremit	137
3. Tsuage	29
4. Wiear	165
4 villages	495

Sawuj	
1. Abtatie	+ 174
2. Kaimo-Cook-river-	+ 182
3. Kainem	146
4. Ogomot	131
4 villages	633

Governmentposts, Immigrants	
1. Agats	344
2. Cookbaai (Cookbay)	11
3. Immigrants outside Agats/Cookbay	155
	510

explanation

All figures are taken from the District Health Centre 1961 census, except those marked +, which are taken from the 1960 DHC census.
names in ( ): synonyms for village names
names in – –: location of village when two villages have the same name.
Immigrants outside Agats and Cookbay: teachers, missionaries and traders. Agats and Cookbay have a mixed population, consisting of immigrants and Asmat people.
It is doubtful whether the villages given in italics belong to the mentioned group or whether they form an extra subgroup.

3. POPULATION DIAGRAM

1956 50 villages with a total population of 19.217 inhabitants. Data from the yaws initial treatment campaign by Kranendonk (319, 320).

men	*age*	*women*
599	0-1	528
1392	2-5	1149
1679	6-11	1446
966	12-17	733
5073	18-44	5197
221	45-	234
9930	Total	9287

1958 Survey in the villages of Ajam and Jamas. Data from the annual report 1958 by Visser (442).

village of Ajam total population 1227 inhabitants			village of Jamas total population 836 inhabitants		
men	*age*	*women*	*men*	*age*	*women*
13	0	13	12	0	15
42	1-4	64	45	1-4	44
70	5-7	68	42	5-7	41
53	8-10	48	43	8-10	40
49	11-14	49	19	11-14	16
28	15-17	25	17	15-17	15
57	18-23	56	32	18-23	35
221	24-44	266	171	24-44	186
33	45-	72	24	45-	39
566	Total	661	405	Total	431

4. VITAL STATISTICS

villages	Sjuru			Ewer				Kainak group	Jepem	Kaimo	Ajam
remarks	1)	2)	3)	1)	2)	4)	3)	5)	6)	6)	7)
years	1955	1956	1961	1955	1956	1960	1961	1958	1960	1960	1961
total population	641	642	697	664	663	665	696	2617	383	281	1407
number of deaths	18	8	?	29	10	29	?	?	10	6	?
crude death rate	28	26	?	45	30	44	?	?	26	21	?
number of live births	41	9	48	50	10	55	51	177	33	14	104
crude live birth rate	64	28	69	75	30	84	73	68	86	50	74
number of deaths under 1 year of age	6	8	6	23	9	20	10	70	6	3	13
infant mortality rate	146	889	125	460	900	364	196	395	182	215	125

Remarks:

The total population is not the mid-year population, but the population at the time of the census taking during the year considered. It is the population on a "de jure" basis.

1. From the patrol report by Laumans. The figures are based on data of the mission and are given with all reserve. Since these figures are the oldest vital statistics from the Asmat, they are included here (324).
2. From the patrol report by Laumans, based on January – July including 1956. For death rate, live birth-rate and infant mortality rate, the numbers of total deaths, live births and deaths under one year of age respectively had to be doubled in the calculation (324).
3. From the annual report of 1961, based on figures from the MCH clinics.
4. From the annual report of 1960, based on figures from the MCH clinics.
5. Total figures of the villages of Jamas, Jaun, Ao, Kapi and As-Atat-Nakaj, based on the mission census 1958, and quoted in the DHC annual report of 1959.
6. From the annual report of 1960, based on DHC and mission census.
7. From the annual report of 1961, based on DHC and mission census. (3-7 incl.: 203).

II. EFFORTS OF THE DISTRICT HEALTH CENTRE

1. CURATIVE SERVICES

Hospital in Agats

	number of patients admitted	total number admission days	deliveries	minor surgery	lab.	dentist	
						number of visits	number of patients
1958	37	218	6	16	247		
1959	199	1425	35	85	409	2	105
1960	281	1665	53	54	474	1	35
1961	364	1980	79	78	266	2	115

Outclinic services in permanent health centres

	number of patients Agats DHC	home visits Agats	number of patients in:		
			Pirimapun health centre	Atsj village health centre (1 year)	Jamas village health centre (1 month)
1958	8437	124	—	—	—
1959	10681	136	—	—	—
1960	13222	218	2732	—	—
1961	16840	231	4034	3675	197

Mobile outclinic services

	DHC in Agats		Health Centre Pirimapun		Atsj Village Health Centre	
	number of patients	total patrol days	number of patients	total patrol days	number of patients	total patrol days
1958	1280	18	–	–	–	–
1959	1407	27	–	–	–	–
1960	1194	26	?	30	–	–
1961	3000	80	650	45	561	35

2. PREVENTIVE SERVICES

yaws campaigns

	number of patrol days	number of villages visited	number of people examined	coverage of number of villages under administration	treatment at re-survey
1956	47	25	12.613	incomplete	—
1957	95	59	16.498	incomplete	total mass treatment
1958	116	68	23.746	complete	juvenile mass tr.
1959	75	70	26.147	complete	total mass treatment
1960	110	90	29.864	complete	total mass or no tr.
1961	141	78	22.788	incomplete	total mass or no tr.

MCH, work

	Agats				*Ewer*				*Ajam*	
	childwelfare		ante-natal		childwelfare		ante-natal		childwelfare	
	new patients	total attendance	new pat.	total att.	new pat.	total att.	new pat.	total att.	new pat.	total att.
1958	—	—	10	32	?	?	?	?	—	—
1959	70	651	46	170	included in Agats fig.				—	—
1960	45	1122	80	186	111	475	—	—	70	95
1961	61	1004	41	135	38	486	30	50	—	—

Tuberculosis-survey

	patrol days	total number X-Rays	total number mantoux reactions	total number B.C.G. vaccination
1959	3	178	209	—
1960	9	406	723	350
1961	17	321	356	135

3. PATROL REPORT

total patrol days	yaws survey	tuberculosis survey	dentist visit	mobile outclinic			control super vision	emergency cases
				Agats	Pirimapun	Atsj		
1958	116	—	—	18	—	—	—	—
1959	75	3	10	27	—	—	45	23
1960	110	9	8	26	30	—	24	8
1961	141	17	14	80	45	35	99	8

total patrol days are given as team-patrol days: when on the same day two different teams are in the field, this has been calculated as two patrol days.

4. ACTUAL EXPENDITURE OF THE DHC

All figures in Dutch guilder. (1 dutch guilder = USA $ 0,27).

	Building Capital Expenditure	Actual Expenditure of DHC		
		Total Expenditure, except salaries, UNICEF penicillin for yaws campaign and transportation.	medicines	medical instruments
1957	DHC Agats 8000,—	—	?	?
1958	—	3549,34	1.979,92	99,75
1959	—	11.235,03	5.208,87	585,55
1960	Village health Centre in Atsj 5000,—	13.474,32	5.281,83	1223,22
1961	village health centre Jamas (prov.) 750.— wardbuilding hospital Agats 30.000—	13.675,37[1]	2.691,07[1]	747,70

[1] not including ± *f* 3.500 for medicines

III. THE GEOPATHOLOGICAL PATTERN

Some figures from the basic surveys and the mass campaigns

I. MALARIA

1956, survey in the villages of Ajam, Warse and Owus by Laumans (324). This study is based on a large number of samples, which, however, does not represent exactly the population diagram.

spleen rate

village	*Ajam*		*Warse*		*Owus*	
age in years	number of people examined	number of enlarged spleens	number of people examined	number of enlarged spleens	number of people examined	number of enlarged spleens
0–1	30	18	13	10	17	15
2–5	61	54	49	43	23	20
6–11	50	41	68	57	51	50
12–14	57	41	47	40	35	33
15–	299	160	127	71	123	78
Total	497	314	304	221	249	196

mosquitoes

	Ajam	*Warse*	*Owus*
number of mosquitoes found	14 Anopheles Longirostris 1 Mansonioides Uniformis	no mosquito survey	4 Aedes Wallacei 2 Anopheles Farauti 2 Culex brevipalpi 9 Mansonioides Papuensis 1 Mansonioides Uniformis 1 Triteroides Bimaculipes

Parasite rate

village	*Ajam*	*Warse*	*Owus*
number of blood films examined	500	300	no blood film survey
parasite index	23	10	
pl. falciparum	24/11	—	
pl. vivax	28/5	8/—	
pl. malariae	71/8	22/—	

the figure after/gives the number of films with gametocytes

2. YAWS

The initial situation in september 1956. Data collected by Kranendonk (319, 320). Clinical and serological sample survey; Chediak VDRL test; 4 villages, population 1682, no previous treatment.

age	0–1	2–5	6–11	12–17	18–44	45+	all ages
clinical survey:							
persons examined	66	233	209	218	946	18	1680
infectious yaws	3	75	31	14	35	1	159
non-infectious yaws	–	–	2	4	56	1	63
serological sample survey							
non-reactive	27	26	2	1	24	1	81
weakly reactive	2	1	3	2	56	1	65
moderately reactive	–	7	20	28	127	2	184
strongly reactive	1	54	71	70	167	10	373

Yaws pattern in following years according to the results of the mass campaigns; data collected by various medical officers.

year	1956		1957		1958		1959		1960		1961	
	T.P.E.	A.Y.	T.P.E.	A.Y.	T.P.E.	A.Y.	T.P.E.	A.Y.	T.P.E.	A.Y.	T.P.E.	AY
ITS	12613	1342	9540	1010	1790	205	–	–	1874	88	1589	149
RES 1	–	–	6958	47	14152	330	1659	75	354	24	1558	2
RES 2	–	–	–	–	7804	140	14957	455	2001	36	315	1
RES 3	–	–	–	–	–	–	9531	157	15913	94	898	2
RES 4	–	–	–	–	–	–	–	–	9722	45	11305	19
RES 5	–	–	–	–	–	–	–	–	–	–	7123	42
Total	12613	1342	16498	1057	23746	675	26147	687	29864	287	22788	215
cov.	incomplete		incomplete		complete		complete		complete		incomplete	

TPE: total number of people examined
AY: total number of patients with active yaws
ITS: initial treatment survey
RES: re-survey
COV: coverage of number of villages under administration

3 TUBERCULOSIS

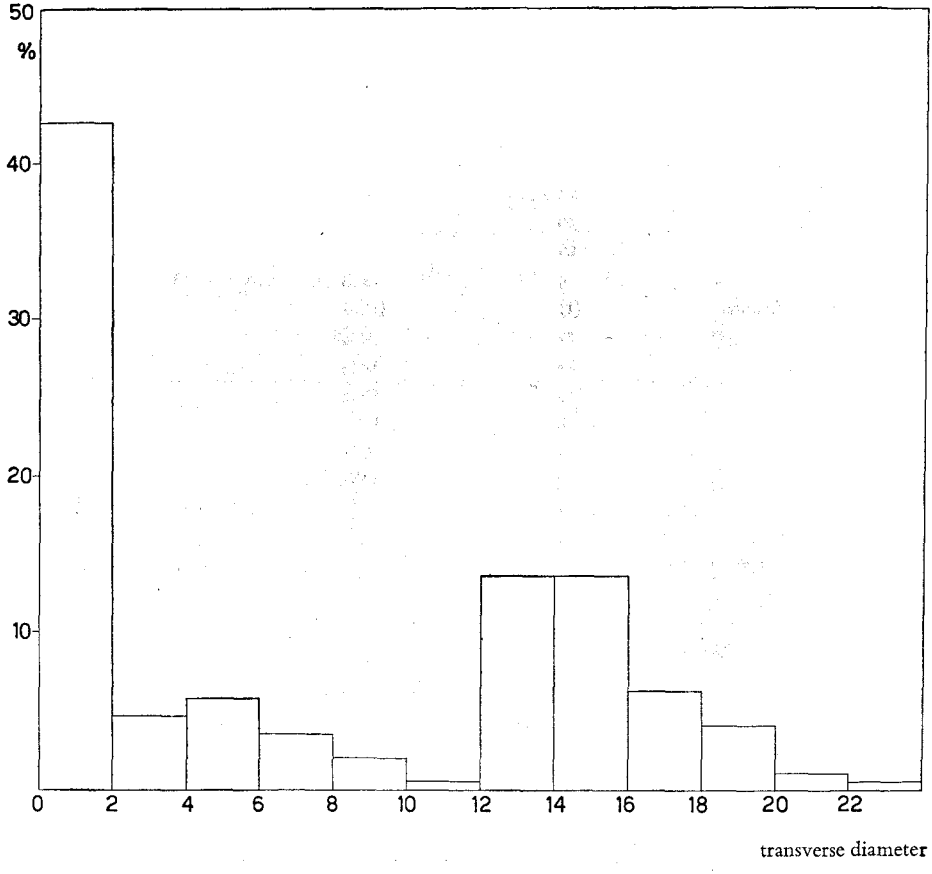
June 1960, village of Atsj, sample of 307 inhabitants. The sample does not correspond with the population pyramid, because there are many children in the sample and more men than women.

A. Tuberculine survey

Distribution of transverse diamter of inclination of tuberculin reactions to the mantoux purified protein derivate one tuberculin unit per 0,1 cc. Reactions were read at 72 hours (Vogel 447).

age in years	0–1	2–5	6–11	12–17	18 and over	total
reaction diameter						
0	18	28	23	38	23	130
2			3	7	7	17
4			3	10	6	19
6				6	5	11
8			1	2	4	7
10				1		1
12			1	16	25	42
14			1	17	24	42
16			1	11	8	20
18				4	9	13
20				1	3	3
22				1	1	2
Total	18	28	33	113	115	307

Histogram of the division in percentages of the positive reactions



B. X-ray survey

58 persones with tuberculin reactions over 15 mm were examined. There was one man, 40 years of age, with suspected tuberculosis. The patient did not receive any treatment. One year later, at the 1961 survey, no signs of tuberculosis could be found in him.

4. MISCELLANEOUS

Intestinal parasites

30 samples from school-children in the village of Sjuru (van der Hoeven and Rijpstra, 297).

	No. of positive samples	Percentage of positive samples
Ascaris lumbricoides	24	80%
Trichuris trichuria	30	100%
Anchylostoma or Necator	27	90%
Strongyloides	4	13%
Enterobius vermicularis	(1)	(3%)
Amoebae	21	70%
Entamoeba coli	15	50%
Entamoeba hystolitica	15	50%
Entamoeba hartmanni	9	30%
Jodamoeba williamsi	2	7%
Endolimax nana	4	13%
Giardia intestinalis	1	3%
Isospora hominis	1	3%

Blood Group Frequencies

147 samples from inhabitants of the village of Sjuru. One tried to avoid taking blood samples from closely related persons. (Nijenhuis, Bekkers and de Vries, 364).

Blood group	Observed		Expected		Gene-frequencies	
	Number	%	Number	%		%
O	35	23.81	35.0	23.8	O	48.8
A	55	37.415	55.1	37.5	A	29.5
B	38	25.85	38.1	25.9	B	21.7
AB	19	12.925	18.8	12.8		
Totals	147	100.00	147.0	100.0		100.0

Measles Antibodies

62 samples from inhabitants of the village of Kaimoon. Kaimoon was situated just outside the Asmat region. The inhabitants of Kaimoon are Asmat people, who moved to their new place of settlement in 1948 and 1953 for fear for intertribal wars. The number of positive reactions, determined by the hemagglutination inhibition test of Rosen, over the total examined is given over percent positive reactions in each age group. (Adels, Francis and Gajdusek, 201).

age group	0–4	5–9	10–14	15–19	20–29	30–39	40–49	50+	all ages
	0/3	1/24	0/28	0/7	0/0	0/0	0/0	0/0	1/62
percentage	0	4	0	0	0	0	0	0	1.6

IV. MISCELLANEOUS

CATHOLIC AND PROTESTANT MISSIONS

	catholic mission			*protestant mission*	
	no. of baptised adherents	non-qualified teachers	qualified teachers	estimated no. of adherents	teachers
1953	8	18	–		
1955	±2000				
1956		43	1		
1957	3289		5		
1958	4372	47	9		
1959	5648				
1960	6835	51		300	
1961					4

ECONOMY: EXPORT

	timber, in m³	crocodile, in inches
1956	± 2000	
1957	2360	
1958	2050	
1959	3660	52.035

CIVIL ADMINISTRATION STAFF

Agats

RUGEBREGT R. N. F.	1938 – 1939	patrol officer
MATURBONGS F.	1939 – 1941	patrol officer
WEGNER J. G.	14-I-1941 – 13-II-1941	local administrator
SCHEELE A. R.	10-XI-1954 – 28-V-1956	,, ,,
THOOFT J.	28-V-1956 – 31-VIII-1957	,, ,,
LAPRÉ M.	31-VII-1956 – 7-II-1959	,, ,,
SCHOOT H. A. VAN DER	7-II-1959 – 18-X-1960	,, ,,
KROON J. W.	18-X-1960 – 9-X-1961	,, ,,
NIJHOFF C. P.	9-X-1961 – 13-IV-1962	,, ,,
IONGH R. C. DE	13-IV-1962 – 11-IX-1962	,, ,,

Casuarinecoast

MATURBONGS V. P. C.	19-X-1958 – 10-X-1959	patrol officer
KRÖSSCHELL J. M.	11-X-1959 – 9-V-1961	patrol officer
WAAL W. VAN DER	10-V-1961 – 10-VII-1962	patrol officer

MEDICAL STAFF (*visiting the region*)

South West New Guinea Expedition:

KOCH J. W. R.	1904 – 1905	physician
VERSTEEG G. M.	1907	physician 1st exp.
MAS PERMADI	,,	,, ,, ,,

South New Guinea Expedition:

RÖMER L. I. A. M.	1909 – 1910	physician 2nd exp.
RADEN JAARMAN SOEMINTRAL ZEERBAN	,, – ,,	,, ,, ,,
VERSTEEG G. M.	1912 – 1913	physician 3rd exp.
SITANELLA J. B.	,, – ,,	,, ,, ,,

Military Exploration:

BRANDERHORST B.	VII-1907 – X-1910	physician
DE KOCK A.C.	IX-1910 – II-1912	,,
SEDEE E. W. E.	I-1912 – IV-1912	,,
KLETT A.	IV-1912 – VI-1912	,,
OOSTERBAAN H.P.	V-1912 – XI-1912	,,
MUYDEN N. H. VAN	I-1913 – XI-1913	,,

1955

LAUMANS E. P. J.	9-I-1955 – 16-I-1955 17-IX-1956 – 3-X-1956	D.H.O. Mimika, Kokenao, in charge of Asmat. Visits for orientation, malaria survey; planning.
HEINEN E. H.	III-1955 – 28-V-1956	medical assistants, giving curative services in Agats idem
RUSLAU	1955 – 1956	
HÖLSCHER C. G. B.	3-XII-1955 – 14-XII-1956	Naval Physician. Malaria survey in Sjuru

1956

KOCH L. M.	I-III-1956 – 29-III-1956	D.H.O. Mappi, Kepi. in charge of Asmat. Orientation.
KRANENDONK O. J. M.	11-IX-1956 – 3-X-1956	Head Yaws Department, First Yaws Campaign.
VORST F. A.	30-X-1956 – 23-XI-1956	Physician Yaws Department, continuation of yaws campaign.
ZR. PANCRATIA (JANSEN W. J. A.)	XI-1956 – 29-V-1959	First European Sister in Agats, starts out-patient clinics.

1957

DE VRIES J. L. DE	2-I-1957 – 30-I-1957 3-X-1957 – 2-XI-1957	Physician Yaws Department Continuation of yaws campaign. First re-survey.

VISSER W. M.	4-IV-1957 – 29-IV-1957 24-X-1957 – 2-XII-1957	Physician D.H.C. Merauke, Experimental and first yaws campaign in Casuarinecoast.
1958		
VISSER **W. M.**	15-V-1958 – 27-I-1959	*First* DHO *Asmat*, Agats
INFANDI, **J.**	15-V-1958 – 9-VI-1961	Medical Assistant.
1959		
AMELSVOORT V. F. **P. M. VAN**	19-III-1959 – 12-II-1962	*Second* DHO *Asmat*, Agats
ZR. JUSTINE (HUDEPOHL W.)	29-V-1959 – 26-II-1961	Second European Sister in DHC
HOEVEN J. A. VAN **DER**	19-IV-1959 – 21-IV-1959	DHO Merauke. First Tuberculosis survey.
DRESSER C. K.	15-XII-1959 –	*Mission Doctor.* The Evangelical Alliance Mission. Pirimapun *Casuarinecoast.* From 1-I-1962 DHO of new independent DHC Casuarinecoast.
1960		
VOGEL L. C.	12-VI-1960 – 18-VI-1960	DHO Merauke. Second Tuberculosis Survey
VOCKING J. S. **M.**	15-V-1960 – 18-VI-1960	Nurse from DHC Merauke, Temporary in Agats for Curative services and MCH
BRABAR B.	14-IX-1960 –	Medical Assistant
FAKDAWER O.	15-X-1960 –	Medical Assistant
1961		
ZR. ADELA (LAMMERINK S. **A.**)	16-II-1961 –	Third European Sister in DHC
BEDES A.	4-V-1961 – 19-V-1961	Medical Assistant from Yaws Department; assistance in yaws re-survey
SAPTHU P. M.	18-VIII-1961 – 3-IX-1961	Medical Assistant DHC Merauke. Third Tuberculosis Survey
RUMAINUM B.	19-X-1961 –	Medical Assistant
1962		
ZIEDSES DES PLANTES **M.**	15-IV-1962 – 21-III-1963	*Third* DHO *Asmat*, Agats

table of asmat terms

Cc = **Casuarine** coast dialect

Ajip	40	Ajip or Doejoesie **river**
ambup	55	warm, feverish
ambús	36	sago pounder
amos	36	sago
an pokmbu	48	manufacturing of sago trays
apán	37	arrow
aráw	54	black magic
As	40	Assoewe or Kampong river
As-amát	33	we, tree people
Asewétsj	**32,** 40	Assuwitsj or Oetoemboewe river
Ásmat ow	33	we, the real people
assetsjowut	42	another wive, besides the principal **wife**
atsjuw	54	kind of nettle, used for massage
awér	34	girdle of the women
Ban ambup	56	with warm hands
Batia (Cc)	40	group of villages along the Fajit and Dere river
Betjembup	40	group of villages along the Ajip and As river
Betsj	40	Southern Island river
bi	**56,** 140	female sexual emission
binduw	54	nose wax, used for massage
binut	46	ritual snake figure
bis	**46, 48,** 50	ancestor pole, ancestor pole ritual
Bismán	40	group of villages around Flamingo **bay**
bu	37	bamboo stem for storing water
buman	48	peace and reconciliation feast

Dambir ow	47	spirits of the people which recently **died**
dambir pokmbu	48	death ritual for a war leader
dam jindi(t)	56	weak, said of newborn infants
dam jipi	56	tiredness, lack of *ji*
Dere (Cc)	40	Kronkel river
det	36	ghost, spirit
dewen	45	enumeration of names of head-hunted **victims**
Embaktsjem	**44**, 46, 48	initiation ritual in Kainak group
erám ese	39	bag with sacres objects of the clan father
ew	51	young mother, who has to follow taboes, i.a. for sexual intercourse
Ewt (Cc)	40	Cook river
Fajit (Cc)	40	Fajit river
Fambiripitsj	45	name of a culture hero
far	37	mat of small strips of wood, used for fishing
firawú	48	manufacturing of grub baskets
faripis	39	the youngest group in the manhouse
fatsjowut	42	the principal wife
Jak asasak	55	my belly is hurting me
japerés	55	sweat
jemes pokmbu	48	ritual of new war shields
Jet	40	Jet river
jew	38	manhouse
jew pokmbu	45, 48	initiation ritual of a new manhouse
ji	56, 140	sperm
jim	37	oval fishing net of notted sagofibers **strings**
jipaj	46, 48	mask, masks ritual
jispár atakám	34	spread of false rumours
jispetiw	48	childbirth
Jitsjembúp		Arafoera sea
ji ow	47	spirits of the clan fathers
Jopmagau	40	group of villages along the Ajip and Undir
jowsé	35, 39	fireplace
Kaimo group	40	group of villages upstream of the Sirétsj
Kainak	40	group of villages near the Mimika area
kamém	37	fishing spear
Keenok		see Jopmagau
Kuti (Cc)	44	Queen Juliana river
Nam(b)er ow	46	contact persons with the spirits

nam pi	50	the spirit is in the body; conceptance
ńdam	55	generally sick
ndoromómo	163	greeting formula: we are friends, closely related to each other
ndow mber	48	head-hunting raid; head-hunting ritual
noso	54	wound
Okorá	42	rape of a woman
om	36, 37	pole, made of the bark of the nibung tree
ondów	35	tile, made from the leaves of the sago or nipah palm
os bopán det	47	*tree spirit*
Papis	43	exchange of wives by mutual agreement
perse (tsjewis)	39	ideal marriage by previous arrangement
pom	37	fishing harpoon
Pomátsj	40	North West river
Pu mbu	48	manufacturing of grub trays
Safan	47	the world of the spirits behind the sea
Samot	33	(we, this) group of people
Sapan (Cc)	40	group of villages along Ewt and Kuti
si	36	stone ax
Simaj	40	group of villages along Asewítsj and Jet
Sirétsj	40	Upper/Northern Island river
sowot	52	sword fish
Tapin	35	mat made of pandanus tree leaves
tsja	56	sperm
tsjen es	52	menstruation
tsjem	35	house
tsjesar	56	something very sacral, more than an ordinary taboo
tjesér jiwi	48	rebirth and adoption ritual
tsjewi	39	the oldest, namegiving group of the manhouse
tsji	36	dugout canoe
tsji mbu	48	*ritual launching of war canoes*
tsjowom	50	afterbirth
tsjowom bip	50	umbilical cord
tsjuman	54	self inflicted burns
tu (Cc)	36	dugout canoe
Undír	40	Lorentz river or North river
uramon	46	soul-ship
Wajir	39	central fireplace in the manhouse
worwos	42, 49	flight of a girl with a boy.

asmat index

This index includes items on the Asmat culture, the history of its peoples, and the introduction of integrated rural health into this region.
The main reference is printed in bold type. For terms in the Asmat language, which are not included, we refer to the table of Asmat terms.
This index does not cover the general problems of medical anthroplogy and rural health as reviewed in chapter one and five. They have been summarized in the scheme number one, page 144.

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Abbreviations used to indicate the main interest in the literature quoted:

A	Arts
C	Civil Administration
D	Discovery and Exploration reports
E	Ethnography
H	Historical notes
L	Language
P	Protestant Mission
R	Roman Catholic Mission
M	Medicine and health
N	Natural sciences
T	Trading, agriculture, economy.

Titles, not marked, regard belles-lettres or journalism.

Abbreviations used for titles of periodicals:

Ann	Annalen van Onze Lieve Vrouw van het Heilig Hart. Tilburg.
B.B.N.O.	Bulletins van de Maatschappij ter bevordering van het Natuurkundig Onderzoek der Nederlandsche Koloniën. Amsterdam.
M.B.	The Mission Broadcaster. Chicago, Ill.
N.G.L.	New Guinea Letters. Fort Wayne, Ind.
N.G.S.	Nieuw-Guinea Studiën. Den Haag.
N.N.G.	Nederlands Nieuw-Guinea. Den Haag.
N.T.N.I.	Natuurkundig Tijdschrift voor Nederlandsch Indië. Batavia.
O.W.	Oost en West. Den Haag.
T.A.G.	Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap. Amsterdam, Utrecht, Leiden.
T.B.G.	Tijdschrift voor de Taal-, Land- en Volkenkunde van het Bataviaasch Genootschap. Batavia.
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Stellingen behorende bij V. F. P. M. van Amelsvoort,
Early introduction of integrated rural health into a primitive society,
Amsterdam, januari 1964

stellingen

I

De medische anthropologie is van fundamentele betekenis voor gezondheidsprogramma's in ontwikkelingslanden. Daarom is in Nederland een nauwere samenwerking wenselijk tussen de Instituten voor Culturele Anthropologie en de Instellingen die gericht zijn op de bestudering van de Tropische Geneeskunde.

Dit proefschrift, hoofdstuk 1, 6 en 7.

II

Een nadere bestudering van de cultureel bepaalde elementen in het medisch handelen van de westerse arts is van belang voor het geneeskundige werk in intra- en interculturele situaties.

Dit proefschrift, pagina 151-156.

III

Het verdient aanbeveling dat getracht wordt in de medische wetenschap een basisschema voor de preventieve geneeskunde te ontwikkelen.

Dit proefschrift, pagina 156-157.

IV

Bloeddrukdaling is gewoonlijk geen oorzaak van voorbijgaande ischaemische accidenten in cerebro.

KENDELL, R. E. and J. MARSHALL, Brit. Med. J. (1963) 5353: 344-348.

V

Voor de operatieve behandeling van het divertikel van Zenker verdient de endoscopische methode de voorkeur.

DOHLMANN, G. and O. MATTSON, Arch. of Otolaryng. 71 (1960) 744-752

RÜEDI, L. und TH. P. RÜEDI, Acta Oto-Laryng., suppl. 183 (1963) 122-128

VI

In de logopaedische praktijk wordt de waarde van het gebruik van de tape-recorder om de patient zichzelf te laten controleren sterk beperkt door het verschil tussen de eigen voorstelling van zijn stem door de patient en zijn door de tape-recorder geregistreerde spraak.

VII

Onchocerciasis kan oorzaak zijn van acute ontstekingsprocessen in de uvea.

RODGER, F. C., W.H.O. Bulletin. 27 (1963) 4-5; 421-429

VIII

De epidemiologische gegevens van de recente paracholera pandemie in Zuid-Oost Azië maakten het treffen van quarantaine maatregelen zinvol, niettegenstaande deze pandemie beschouwd kán worden als een manifestatie van een commensale infectie met de El Tor Vibrio.

KRANENDONK, O. J. M., N.T.v.G. 107 (1963) 1727-1728

MOOR, C. E. DE, Trop. Geogr. Med. 15 (1963) 97-107

IX

Massale vaccinatiecampagnes bij beginnende epidemieën kunnen soms geduid worden als een testimonium paupertatis voor de medische stand.

X

Een malariologisch onderzoek als voorbereiding voor een eradicatie-programma kan niet meer beperkt blijven tot het verzamelen van physische, haematologische, para-

sitologische, entomologische en epidemiologische gegevens. Een dergelijke studie dient zich ook uit te strekken tot culturele karakteristieken van de betreffende bevolking en de te verwachten socio-economische gevolgen van het voorgenomen eradicatie-programma.

DHILLON, H. S. and S. B. KAR, W.H.O., Malaria Series, (1963) report no 384

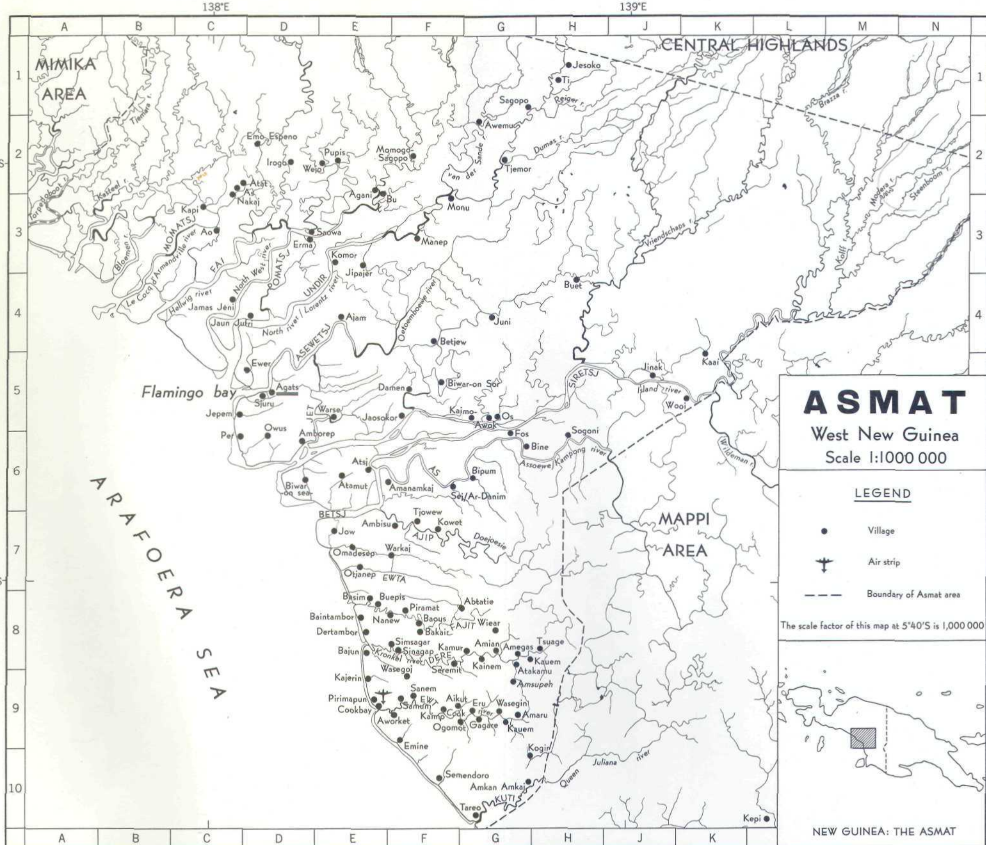
XI

Een onderzoek van de problematiek van de wachtkamer – met name van die in universitaire klinieken – kan een bijdrage leveren tot verbetering van de relatie arts-patiënt en daardoor tot verhoging van het peil van de volksgezondheid.

XII

Bij een beoordeling van Johann Christian Bach als componist dienen zijn vocale werken meer dan tot nu toe gebeurde in aanmerking genomen te worden.

AMELSVOORT, F. VAN, Mens en Melodie. 12 (1957) 300–305



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