HEALTH AND DEVELOPMENT IN NORWAY

A Study of Factors Conditioning Health

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Authors' Preface

We live in an age dominated by economistic thinking. Goals, processes and indicators of development tend to be seen in economic terms. While not discounting the significance of production and distribution, development could also be seen in terms of the impact of consumption, in a broad sense, on human health. And that would mean health as a goal in itself, not health as a possible condition for more production. It would have profound impacts on both theory and practise of development, as seen by the many countries that are rich but have large pockets of ill health, and the poor countries that are doing relatively well in health terms.

It can be argued that Norway was one of those poor countries, able to raise the health standards quite quickly. Norway is now a rich country, with new health problems shared by a number of industrialized countries. Our study is an effort to explore this career pattern of a country, with the hope that there might be something to learn, both positively and negatively, for other countries.

In the study we have been greatly aided by discussions with an advisory committee chaired by the Norwegian Director of Health, Dr Torbjorn Mork. We would also like to express our thanks to Dr Aleya Hammad of the World Health Organization and the participants in the Workshop on Intersectoral Action for Health, Colombo, Sri Lanka, 1981. The responsibility for the presentation and for the conclusions drawn, however, rests with the authors.

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1. INTRODUCTION

This study has taken as a starting-point a vision of health for all, so well expressed by the WHO definition of health: "A state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity." This is a utopian goal towards which one should aim in order to create societies in which there are as many healthy people as possible, while those struck by accident, illness or congenital disabilities are given the best possible help so that they, too, may live a meaningful, productive life.

We have looked back through Norwegian health history to be able to predict where we are heading, whether we are coming closer to this utopian goal or whether we are moving away from it. In order to devise health strategies, we need a conceptual framework, and a vision for future progress. Our conceptual framework starts with a discussion of universal human needs (survival, wellbeing, freedom and identity) linked to the concept of health. The goal of development and of health is the satisfaction of these needs. This goal should take precedence over material achievements such as increased GNP per capital, more cars, hospitals or whatever. Intersectoral action is needed to achieve this goal.

In Norway, health policies have been carried out within one sector, the Ministry of Social Affairs. Many forces outside of this sector, however determine the level of health, and there has been no real consistent attempt at promoting the important goal of health for all through intersectoral planning. Health in Norway has not been perceived holistically, but has been

limited to one sector. The purpose of the Norwegian study has been to 1) show what we did well in Norway, so that others may learn from us, and 2) show what we did wrong, so as to warn others from following the same path uncritically. We do not advocate the Norwegian experience and its technologies or development in poor countries, however. Rather, we would like to emphasize the importance of catering to the basic human needs in all countries. The concrete strategies will differ. Health is a total package, not something which may be delivered from the top to the bottom - to the clients. The "health delivery" concept may threaten local and individual self-reliance and through it identity and freedom needs, leading to poor health in the long run. Individual and community participation are indispensable, and will always bring in new ideas that will challenge the established schemes.

The Norwegian experience shows that in many cases there are trade-offs or diminishing returns, when there are increases in the inputs into health beyond a threshold. For example, sunshine, an important source of vitamin D, may also, in excess, be an important factor in skin cancer and premature aging. Jogging, potentially a healthy form of exercise, has been shown to lead to "jogger's knees" and other damage. Television, which may be a source of information and could be used for educational purposes, can also be over-used. Children in West Germany, for instance, have been found to suffer from learning disabilities from too much TV-watching, etc.

Another way of looking at health is to analyze the impact of different sector. Cause and effect cannot be established easily and in most cases not at all, since health is the result of a total package. At present, ministries such as the Ministry of Social Affairs and the Ministry of the Environment have the job of lessening the negative impact on health caused by other ministries, for instance those dealing with building up polluting industries

or promoting automobiles. A ministerial approach to health would, however, be much more useful if all ministries were equipped with personnel to evaluate health and had as a primary goal that of promoting health, not of providing more jobs, better roads or new TV-programmes.

A word of caution should be given about indicators presented in our study: they are no more than that - only pointing to certain directions. But when taken together, they can tell us quite a lot. Some times we do not know if a positive indicator is positive ad infinitum. For instance, is an ever-increasing life expectancy to be desired? In the case of infant survival rates, what about the children born with malformations? One example: Increasing height of a population is seen as something positive, but when does height become a negative factor? A study of this question, now being undertaken in Norway, hypothesizes that large deviations from the average height may be bad for health - very tall people, for instance, may not develop inner organs to match the growth of the bone-structure. In general, we shall assume that the optimum for variables is probably to be found in a middle range rather than in the extreme.

Indicators of material needs coverage are relatively easy to make. When it comes to non-material issues, however, it becomes more complex. How do we quantify identity needs, such as the sense of belonging? Some indicators like deteriorating mental health, alcohol and drug abuse provide a partial answer. Suicide statistics are seen as indicators of poor mental health within the area of identity needs. With respect to freedom needs, are rising divorce rates good or bad, increased sexual freedom a healthy or an unhealthy sign? Such issues must be answered in the light of cultural variations within each country and general replies are difficult.

The overall picture for Norway has been a positive trend in terms of falling mortality rates, together with the virtual disappearance of infectious diseases as a cause of death. However, the high level of deaths from heart disease (possibly levelling off) and the ever-increasing rates of cancer enter as negative factors, together with a more pronounced picture of chronic diseases. The level of mental health, at least when it comes to lighter mental disorders, seems to get worse, and life expectancy for males was higher during 1946-55 than today. Norway's success has therefore only been partial, and many officials in the health sector now have the feeling that they are going into uncharted territory with regard to health.

What we did well in Norway was, of course, the way diseases of what we call Cluster I, the diseases of poor, pre-industrial countries, above all the infectious diseases - were reduced to the current very low level. What we did wrong was, correspondingly, our inability to foresee the diseases of Clusters II, III and IV of the rich, industrial and post-industrial countries, even to see them as medical problems and, in the case of cancer, the general tendency to look for a virus (since that approach had been so fruitful in connection with Cluster I diseases) rather than to look for causes in the society itself. But this is a general phenomenon, nothing specific to Norway.

The reason why we succeeded, in Norway, so well with Cluster I diseases seems to be more related to social distribution rather than to economic growth. Health services became accessible to almost everybody, and practically speaking free of charge in later years when Norway became richer. In the earlier period exposure levels were reduced through improved hygiene/sanitation and quarantine, and resistance levels were built up through immunization, better nutrition and higher material standards of living, especially better clothing and shelter to protect people against the Norwegian climate - wet and cold.

Social distribution worked well essentially for three reasons: The basic unit of health authority according to the Bill of Health of 1860 was the municipality, with a health council on which people from all walks of life served; the chairman being the local state appointed physician. The administration was to begin with strong at the local level and weaker at the central level, meaning that many people were directly involved. The system was participatory at least among political representatives, and there was some element of comparison and competition among municipalities. Intersectoral linkages came somewhat automatically at the local level - people are nearer to the ground.

Another factor contributing to distributive efficiency was the dense network of voluntary, non-governmental organizations with high membership levels, which proved to be excellent vehicles for the dissemination of health messages and activities. Some of these organizations with very high membership levels, specialize in health matters.

A third factor was the strong social and democratic consensus in Norway, existing almost along the entire political spectrum, making it natural to include everybody in the services, and to build a security net under all Norwegian citizens although this took some time. The result has been the provision of practically free health services, and almost non-emergence of private, elitist medical practice.

With the trade-off between mortality and morbidity today, with a high proportion of the population having chronic diseases, much of it related to alcohol, smoking, wrong diet and lack of exercise, the physician has now become less of a biological and municipal "engineer" - these aspects are now taken more or less for granted. The physician has become more of an amateur

sociologist and amateur moralist, and is not necessarily well equipped for these roles. He increasingly relies on a moral stance - a series of individual-centred "thou-shalt-nots". But there is some schizophrenia in this, too: e.g. a reluctance to attack the tobacco-producers, but rather the tobacco-consumers (although the intermediate link, the advertising, has been close to eliminated). Correspondingly, there is more focus, still, on prescribing valium than on building a less stress-filled society. Among younger, and female, workers in the health sector, however, there seems to be more of an emphasis on the "green" wave, on a society closer to nature, not so much based on building resistance levels artificially high as on lowering the exposure levels. For this the informal health sector of self-care, other-care, mutual care and folk medicine in general is indispensable. A holistic approach is an indispensable basis for good health, and can only be approximated by an intersectoral approach at the central levels, far removed from initiatives at the individual, family and community levels

2. THE CHANGING PICTURE OF HEALTH IN NORWAY: A SUMMARY

If we should characterize one century of change in the picture of health in Norway, three items seem to stand out[1]: longevity increase, the mortality transition, and the morbidity prevalence. More precisely:

Longevity increase - 1871-80 E_o for males was 48.33, for females 51.30
1977-78 E_o for males was 72.31, for females 78.65

Mortality transition - In 1900 the main causes of death were TB and senility
In 1979 the main causes of death were heart disease and cancer

Morbidity - prevalence — In 1975 41.3% reported some kind of chronic disease; i.e. 0.65 chronic diseases per person in the country.

That people live much longer is undisputed, among other reasons because of a curative system that handles very well many acute diseases. That the quality of life in terms of health, meaning morbidity, has improved is questionable - it may even be deteriorating in recent years. And that the quality of death, meaning the type of cause of death, is deteriorating may not even be questionable. A heart that ceases functioning during sleep, at old age, may be a death of mercy, but not - in general - cancer of the lungs or the stomach. And "senility", if really meaning a death from a multiplicity of causes, from being worn out, may be the most acceptable death of them all. It is a success story, but there are shadows, even deep ones.

To see the long term picture more clearly, let us look at each one of the three items, summarizing some of the findings in terms of differences by age, gender, class and geographical background.

Longevity. The gain in total life expectancy is impressive, but the gain favours the young of age and almost exclusively so. A man at the age of 70 has only gained a little more than two years in life expectancy since 1880 (8.89 to 11.14) and a woman at the age of 70 a little more than three years (10.55 to 13.88) - not much given one century of hard work by the health sector. The reduction of infant mortality from 139.8 per 1000 live births during 1836-40 (101.0 in 1876-80) to 8.6 in 1978 is highly impressive; so is the reduction of maternal mortality from 38.0 per 10.000 live births in 1899-1902 to 0.2 in 1978. The upper classes are favoured, but not much; urban people are favoured over rural probably due to somewhat better services, but not much; and women are favoured in the whole process of prolonging

life: in all age categories they have been gaining more than men, now to the point of expecting to live six years longer. The discrepancy between women and men is increasing, something that ought to have consequences for the relative age of partners for marriage and co-habitation, but is still not understood. Thus, women who want to live with one partner obviously should choose a man six years younger.

Mortality transition. The transition from infectious diseases to "civilization diseases" as major causes of death is quite clear; both cardiovascular/heart diseases and malignant neoplasms (cancers) having increased solidly during the period (and even more than the infectious diseases have decreased), and having an etiology rooted in the man-made environment (chemical pollution; processed, too fat and sweet foods; cigarette smoking and psycho-social factors conveniently lumped together as "stress"). A decrease in infectious diseases as main cause of death from 32.4% in 1900 (tuberculosis of the lungs 17.5%) down to 0.8% in 1979 tells one story; the increase in heart diseases from 5.6% to 52.1% and in cancer from 7.2% to 22.0% another. Maybe half of this increase is due to the increased longevity, in which case it can be seen as the cost that has to be paid for the benefit of longevity. But with cancer now being cause of death number 2 (after accidents) for children in Norway it is quite clear that the phenomenon is deeper, even if it is true in general that the old are worst hit.

The men are also worse hit than women: in the period 1931-35 to 1979 male deaths from cardiovascular/heart diseases went up from 269 to 547 (per 100.000 population); female deaths from 288 to 455. The corresponding figures for cancer were 128 to 233 and 136 to 191; with the obvious differences as to types of cancer depending on male and female anatomy/physiology. There are

geographical differences for both, and a gradient making urban people worse off for the cancers - in general - and somewhat worse off for the heart diseases. But what about social class?

To start with the old killer in Norway, the one that once corresponded to the tropical diseases of many Third World countries today, was tuberculosis. A study by Gjestland and Mork[2] divides Oslo into Eastern (low class) and Western (high class) parts and compares, by gender and age groups deaths due to tuberculosis 1890-1939. The decline is unmistakable but it is to a large extent parallel, with no convergence between East end and West end. Clearly, the class differentials were maintained throughout this period of half a century that also included liberal and labour party rule - although the latter only for a short period. One objection would be that the equalization in social and economic conditions was, immediately prior to the war in 1940, not sufficient to bring about an equalization in the condition of death.

But it may also be that class is more pervasive. Cancer of the stomach, for instance, is by now a disease more for the lower socio-economic groups - cancer of the lungs less so (this one is also increasing for women, possibly related to increased smoking, possibly related to emancipation). There is a study (Holme et al.)[3], concluding on the basis of having invited all men in Oslo aged 40-49 to a screening programme for cardiovascular disease, that "The lowest social class exhibited a much higher total mortality than the other classes. This was pronounced for a variety of causes of death, such as cancer of the lung, accidents and homicide, and coronary heart disease. ... It is also known that several coronary risk factors, such as elevated levels of serum cholesterol, serum triglycerides, blood pressure, cigarette smoking, and physical inactivity at leisure, are more prevalent in the lower classes".

In terms of occupations the two most exposed and the two least exposed for cardio-vascular diseases and for cancer are :

	Cardio-vascular diseases	Cancer
Most exposed	Deck and engine room crew work Hotel, restaurant, waiting	Deck and engine room crew work Hotel, restaurant, waiting
Least exposed	Management, agriculture, forestry, technical and scientific work	Pedagogical work, management, agriculture, and forestry.

This approach, by occupation, is important and will be made use of below.(4) The ratios between most and least exposed occupation is 2:1 for cardiovascular/heart diseases and almost 3:1 for cancer.

Another aspect of the mortality transition worth mentioned are the accidents. Deaths caused by accidents, per 100,000 population, in the period 1901-05 to 1971-75, has changed from 92.0 to 67.5 for men and from 12.9 to 34.9 for women; for the total population almost constant. But the content has clearly changed, and also here from the nature-inflicted to the society-inflicted (knowing this is a much too sharp dichotomy). For men accidents relating to fishing, water transport, and drowning for other reasons changed from 62.6 to 16.9 whereas traffic accidents went up from 3.3 to 21.1 (for women from 0.6 to 7.7). For women the major change was the rapid increase in death due to falls, and here age clearly plays a major role: a

price women have to pay for their longevity. So in the field of accidents women are clearly getting worse off (probably because men are protecting themselves first), and the shift to traffic accidents will hit urban more than rural people.

Morbidity prevalence. With the two conditions already mentioned, the longevity increase and the mortality transition, it is perhaps not strange, as mentioned above, that as much as 41.3% of a big, representative sample should report that they suffer from some kind of chronic disease. If one adds the five percent suffering from congenital diseases this comes close to half of the population, and the other half is also hit because they live together with the first half. The three most frequently mentioned categories of chronic diseases are "diseases of the musculo-skeletal system" (14.8%), "heart diseases" (10.4%) and "nervous conditions" (7.3%). A study of this particular material[5] concludes that age is by far the most important factor accounting for the prevalence of chronic disease in the population. This is almost a tautology as a disease, to be characterized as chronic, has to last for some time (in fact, 60% of those diseases reported had lasted for five years or more, 23% for anything between half a year and five years). But it is also quite clear that many of these diseases only develop late in life, and as women live longer that would be one reason why they are more likely to report chronic diseases than men.

There is no clear, simple picture with regard to occupations or class reported in these studies.[6] In a sense this is not so strange: the phenomenon is so prevalent that it covers all society, apart from the clear age gradient and the somewhat less clear gender gradient. There is not so much leeway left for class and geographical differences, at least not if we look at all chronic diseases rather than separate categories where more or

less obvious, occupation-related patterns emerge. The picture we get is that of a population with a high level of morbidity, and there is even some indication, comparing studies from 1976 with the study from 1975, that the morbidity may be increasing at the rate of about 1% per year. It should also be remembered that not all diseases are chronic, only 85% of them - the rest being acute.

There is a special morbidity category that has to be looked into as it is also often mentioned as one of the "civilization diseases" (not a good category, it builds too much analysis into the labelling): the mental diseases or disorders. Of course, they also fit in with the mortality transition: suicides (usually seen as coming out of existential problems, a loss of orientation) per one million population increased from 111 to 172 for men, and from 30 to 71 for women, in the century from 1876-85 to 1979. And there also seems to be a synergistic link between mental disorder and cardio-vascular diseases.(7)

In the period 1950 to 1975 the hospital first admissions per one hundred thousand of the population increased from 48 to 83, and the number of readmissions from 85 to 230. What really seems to have increased, however, is the number of light mental problems, non-psychotic - and almost without exception the women are hardest hit. Thus, almost 11% of the male and 18% of the female respondents of a survey reported to have been told at some point in their life by a doctor that they suffered from nervous or psychological problems. (9) Again, it is quite clear that the urban districts are the hardest hit. In the total social picture, at any given time, as much as one percent of the population may suffer from schizophrenia, 6-7% from psychoses, 10-20% from neuroses; and about one third of the population is in need of some kind of psychiatric attention during their life time.(8)

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This is, more or less, the picture of health in Norway today mirroring the change: from the typical pattern of an underdeveloped to the typical pattern of an overdeveloped country. And we say "overdeveloped" without much hesitation because both dietary changes, pollution and stress, so important in the etiology of the "new" diseases, relate so clearly to "development" patterns where the human-made changes of the human condition have gone too far in a wrong direction. "Maldevelopment" is also a term that may be used, but we prefer to use that to cover both the conditions of under- and over-development, and particularly the very frequent situation where patterns of under-development and patterns of over-development are found side by side, in the same society, even in the same person.(9)

The natural question is: what are the likely future trends, what will be the pattern of mortality and morbidity tomorrow and the day after tomorrow? Here are some pointers:

As to longevity increase: the maximum seems to have been passed for adult males, in the 1950s. The women may still have some years to gain in which case the difference will increase further. If negative factors are removed (essentially life-style) both genders may have much to gain - how much nobody knows.

As to mortality transition: Barring the possibility that the infectious diseases make a come-back, there are some signs that the cardio-vascular diseases may have reached or be reaching a maximum as a cause of death, whereas cancer still has some years with an increase, even with an annual growth as high as 3%(10), before a decline sets in, if it does. Accidents may be declining; to some extent an engineering problem.

As to morbidity prevalence: If the chronic diseases are increasing at an annual rate of about 1%, and the mental disorders of the light variety are among them, then there will be a steady increase of non-lethal morbidity. Suicide may also increase.(11)

All of this, of course, presupposes no major belligerent activity involving Norway. A nuclear war on Norwegian territory would cut life expectancy dramatically and introduce radically new sources of mortality and morbidity.

Combining these highly mechanistic extrapolations one gets the picture of a population where cancer plays an increasing role in the morbidity and mortality picture, for ever younger groups of the population, perhaps becoming the biggest killer ~~of the three~~, passing ~~not only accidents, but also~~ cardiovascular diseases. An increasing part of the population will be very old women, most of them suffering from chronic diseases, many of them from "nervous conditions" - men dying earlier, from more acute diseases. Patterns of morbidity and mortality will, grosso modo, flow from higher to lower classes like so many other things, or from higher to lower social position, to talk in more general terms.(12) Yesterday's disease picture for those in high social position may be the picture today for the medium group and tomorrow for the low social position - just as the eastern part of Oslo eventually also got rid of tuberculosis as a cause of death, only twenty years (or so) later than did the western part. The picture for men may be valid for women tomorrow as they get into similar positions; and the picture of Norway is becoming increasingly valid for Third World countries.

And that, of course, raises the interesting question of what the even newer diseases will be. Again, barring a nuclear holocaust, is there something in stock for us? Two models or ways of thinking come to mind here:(13)

Society-centered model: Social change continues and new patterns of disease evolve as societies evolve; societies carry them.

Person-centered model: Human beings themselves carry certain genetic propensities for disintegration, and one type of disease may only be masking another type.

According to both ways of thinking we solve problems in the field of health only so as to arrive at new problems - the question of whether the problems are easier or not does not enter as a question - they simply are our new problems. Let us assume that in pre-industrial society human beings died more or less from the same causes as they would have done as nomads or hunter-gatherers: the whims of nature, including vectors carrying diseases. Industrial society came to Norway in this century, and mainly after the Second World War, and with it the diseases of that type of society. What kind of diseases will exist in post-industrial society, or whatever we call it. Here it should be pointed out that cancer and heart diseases were known in the old society, so we may also look for the very new in our present society. And one guess might be the mental disorders, but with higher prevalence, incidence and lethality, a kind of isolation, dissociation from others, eventually crippling so many social functions that more "somatic" diseases enter the picture and do the final job - if that is not done by suicide.

This picture, presupposes a relatively linear, mechanistic extrapolation from the industrial to the post-industrial in the vein of the type of future studies often done in the US in the 1960s. One could also imagine a more pleasant picture with a society evolving (we carefully avoid the word "developing") in another direction: less service-oriented, more in the direction of smaller self-reliant units, preserving the gains in the health sector in the first great mortality transition, yet trying to undo some of the losses by creating a society with less of factors like pollution and stress, more of factors like enlightened self-care and care for others. So, what diseases would that type of society produce? Difficult to say. One hope would be that it could come closer to the following description of an ideal health situation which, surprisingly enough, we have never seen discussed, and hardly even described.(14)

Longevity: not only in terms of quantity of years but also in terms of a meaningful life curve, ending with a sense of completion.

Mortality: from having come to an end, which probably in general means dying from many causes ("senility", "old age") rather than from one specific (and hence seemingly avoidable) cause - not too painful, not too long-lasting, but not so quick that one cannot depart meaningfully either. In short, quality of death, not only of life.

Morbidity: very low both in terms of acute and chronic diseases, but not so low that there is no training in self-care, other-care and in pain.

Clearly, formulated this way, Norway is far away from this ideal.

It should be noted that this view of the natural history of disease does not exclude the person-oriented model. We human beings are biologically not designed to live forever; even if possibly much longer than we do in Norway. We are probably equipped with some species-specific self-destroying devices, and if one is triggered off (e.g. by an infection) the other is not, meaning that the other way of dying, or propensity to die, is masked by the former. One could then imagine a masking hierarchy, and that so far we have only started with the bottom layers: there is more in stock for us. Qui vivra verra, or better, qui verra vivra

3. THE CHANGING PICTURE OF HEALTH IN NORWAY: AN EXPLORATION

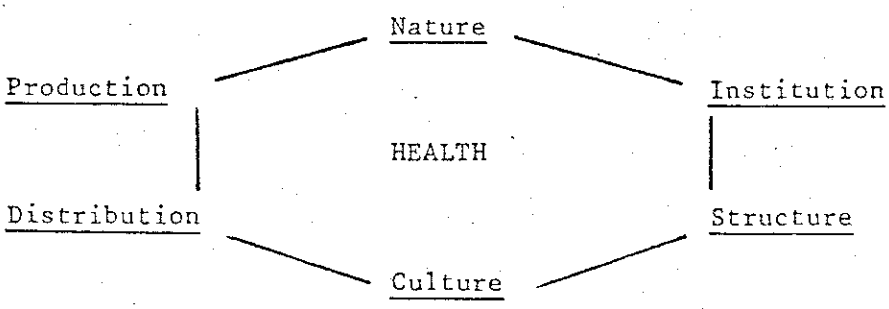
How did all these changes come about? Was there a strategy[15]; a clear goal (what to do, "health for all" at a certain time?); a clear rationale (why to do it, to diminish suffering, to create a population more fit for the classical goals of production and military roles?); actors (the who to do it, with the goal as their motivation, backed up by the rationale); the means (the how to do it); even some indications of when and where to start? Quite clearly this type of model, deliberate, filled with volitions, is inadequate. In the words of Karl Evang, for many years the Norwegian Director of Health, what really happened was quite different:

> "It is characteristic of the construction of the Norwegian health services that it came about not according to a general plan, nor according to a prior analysis of the needs in the individual cases, often not even after efforts to calculate the costs, weighing them against the benefits of one solution as compared to another. What has been done came about for various reasons, often because there was a clear emergency, or because in

one place there was a particularly entrepreneurial individual, a far-sighted municipality or group. Not the least the diversity and the strength of the local initiative were significant."[16]

But even so there may be more aspects to health than even directors of health think of, so we shall prefer to start with the expression in the first sentence of this chapter, "how did all these changes come about". Just to make one little point: is it absolutely obvious that one would have done the same 25, 50, 75 or 100 years ago if one knew what the end result in 1980 would be? Health improvement would definitely be seen as a great step forward by most, relative to what was one hundred years ago (maybe not relative to what was 25 years ago); but better insight in the consequences, many of them not willed at all, would have led to other policies at some points.

So, what brought changes about? Analysis in terms of actors is inadequate; it casts history in a too deliberate, volitional mode. Analysis in terms of factors goes too far in the other direction, too objectivized, deprived of the tremendous motivation behind such a powerful goal-dimension as health. Hence, let us settle for an intermediate term: sector, seen as a factor, but with actors built into it, even close to or on the surface. The following sectors will be used:[17]



These are general terms, and they are all very ambiguous. They are carriers of negative as well as positive health resources, promoting as well as

impeding health. In the centre we have put health itself, defined as it has been in the preceding pages. It is in a process, not only as to quantity and quality of health achieved but also as to the definition of health as a goal. That is to say it is always changing. And so are the six sectors surrounding it. Their impact on health will now be explored, but the problem is that they also impact on each other, meaning that any realistic conceptualization of the health process will have to take into account the total web of interrelations. And at that point it is quite clear that any hope of anything like a rigid quantification will have to be cast aside. The exploration will have to be in fairly qualitative terms, but that does not preclude explorations of structures in the "web of inter-relations", and processes in those structures. First, however, an exploration sector by sector is necessary, interpreting these six rather general terms in a way that is useful for the purpose of exploring health systems. This will be done in the order of a clock from 1 to 6, starting with Institution.

Institution. These are actors in the conventional sense, and here we are thinking particularly of public (governmental) actors, in the narrow sense of ministries and their counterparts at provincial ("fylke") and municipal ("kommune") levels. The latter are very important, as already mentioned. Although the focus will be on non-health actors or sectors in the broader sense, something has to be said about the health sector.

The health sector is huge. Peter F. Hjort has given a very useful summary in quantitative terms.[18] The formal Norwegian health sector counted (end 1976) 98,000 employees (in 1980, 120,000) or 6% of the employees in the country and 25% of all new employees. The total budget is 14,000 million kroner; the health services account for 7% of the GNP and has a more rapid growth than most other sectors. It is divided into the primary health care

sector with about 1,500 primary doctors and 5,000 nurses and assistants taking care of the first contact with a patient and actually handling 90% of the health problems directly; the hospitals (secondary health care) with 23,000 beds, 4,000 physicians and half a million patients per year; and the institutions (tertiary health care) for the care of the elderly, the physically and mentally handicapped, the mentally ill, the alcoholics, the epileptics, etc. - actually with more capacity than the hospitals. Hospitals and institutions are administratively under the provinces that handle 70% of the resources available; as many as fifty different health professions can be identified, half of them are found in the hospitals. Then there are the municipalities that will handle the primary health care - and the state level will take care of the general coordination, supervising the general state of health and the general measures of preventive medicine.

Hjort indicates four reasons why the health sector (or services) will continue to grow:

- there is no political motivation or capability to stop it,
- the older part of the population is increasing,
- education of health personnel is running full steam, 300 MDs per year,
- new discoveries in medical science lead to more specialization.

This, however, does not take into account the total medical-industrial complex, with all the pharmaceutical corporations, the hospital industries etc., also growing at a considerable rate and being run according to market principles as opposed to the public service that is financed from public budgets.

The formal health sector in Norway may be said to have been created through the Bill of Health (Sundhetsloven) of 1860, although there were some precursors related to threats of epidemics.(19) This law has one remarkable feature: it is based on a high level of local (municipal) autonomy in health matters. There is a health council in each municipality consisting of (most) members of the municipal council,(20) it has considerable authority but only for that small community of which the council members are active participants. The chairman of the health council is the local public physician - not like in many other European countries in that period the local police authority. Thus medical expertise is combined with local participation and decision-making power, not to mention a certain competitiveness among the municipalities - in a setting of respect for local economic and cultural conditions.

The public physician constitutes the link to the central health authorities as he is a state, not local employee - and this position gave him increasingly preventive, not only curative tasks, to some extent integrating them. In this way intersectoral perspectives could be brought in from the very beginning and in the only setting that is sufficiently concrete: the local level. But it took some time before this plan could be said to have been implemented:(21) in 1880 only 139 of the 466 rural municipalities had worked out health regulations; in 1900 there were only 159 public physicians - but in 1920 there were already 401. The tendency after the turn of the century, however, has been towards more centralization both of health administration, and of secondary and tertiary health care; to some extent accelerated by the tasks of post-war reconstruction.(22) Thus, the central health directorate employed 9 persons in 1880 and 98 in 1955. Factors behind this general trend are the increasing cost of both preventive and curative medicine, the need to see hygienic questions in larger environmental contexts and the general ideology of economies of scale.

As the network of health services became more dense there was more demand and as there was more demand the supply had to increase. Health services were seen as relevant, to everybody. The problem was that the cost could not be borne by the common man's individual economy, by his private income or wage. A social income or wage had to be added, social security, the security net under everyone, at least in principle. In 1885 comes the first commission (royal) to study the problem of sickness insurance, in 1911 the first obligatory system and with that the economic basis for quick development of curative medicine in Norway - primary, secondary and tertiary health care. As for health administration in general the beginning was made at the local level: the sickness insurance system is municipal.

There was general agreement politically that some system of the social security kind was needed. The conservative, bourgeois parties supported it because they saw it as a means of social pacification (like Bismarck); the socialist labour parties because they saw it as a human right. The latter had three basic principles underlying their fight:(23)

- Universality - the system should be for everybody, avoiding the stigma of being found needy, "poor" - also avoiding that the rich find their own solutions different from everybody else;

- redistribution - the system should be financed from taxation, and more particularly from progressive taxation, meaning that the richest pay also for the sickness of the poorest and those in the middle come out about even;

- public responsibility - the government, the state should assume the responsibility that the system is really carried out.

It may surprise non-Norwegians to learn that the people's pension (folketrygden) did not really come into being before 1966 (under a bourgeois government), and only with principles 1 and 3 above.(24) The employers' part of the bill, of total social security, actually increased from 8% in 1950 to 40% in 1970. The system is hardly stable and will probably undergo many changes even in the near future, not the least because of the extreme increase in the costs of health care. One may even return to the system that characterized the period 1870 till World War II: social aid rather than welfare. Or, one may ask a basic question: why an insurance system at all, why not have health care as a part of the regular public budget?

To what extent is the formal health sector a positive health resource? There are three possible answers to that question when it is made sufficiently specific to become testable empirically: (1) it is a positive resource, (2) it is irrelevant, (3) it is a negative resource (meaning counterproductive). Some points in this connection:

Longevity: the availability of perinatal services in pregnancy, proper services during birth with appropriate hygiene, and good post-natal services must have been a very positive health resource, contributing to the tremendous reduction of infant mortality and maternal mortality, and thereby to the increase in life expectancy, especially for women. But the fact still remains that whereas in 1900 a 70 years old man could expect to become 80.3 years old, in 1978 he can only expect to become 9-10 months older than that (81.1 years old, to be precise).

Mortality transition: the studies by McKeown[25] are very relevant in Norway as tuberculosis played such an important role in mortality. He showed that whereas 4,000 people died in England and Wales from TB in 1840 this had already decreased to 2,000 when Robert Koch, in 1882, discovered the TB bacteria. And when, finally, the first effective medicament, streptomycin, was marketed in 1947 the number of deaths had already come down to 400. McKeown attributes to streptomycin only 3% of the decline in TB from 1850.[26] And when it comes to the new diseases: Hjort is very outspoken about this. There are three big causes of death probably depending on life-style: cardio-vascular diseases, cancer and accidents accounting for 75% of the deaths. There are two big classes of chronic diseases tormenting people: diseases of the musculo-skeletal system and "nervous conditions". What to do about it? Mainly preventive medicine, for the first three because there is so little we can do, for the latter two because our treatment is so ineffective.

Morbidity prevalence: much can be said in addition about this, but let it suffice to point to one thing: when so many people in Norway (as in other countries in the same historical phase) suffer from chronic diseases that in itself is a sign of the shortcomings of the health sector. These diseases are so long lasting precisely because the health sector does not know what to do about them. And some of them are also iatrogenic diseases[27] meaning diseases produced by the health sector itself, including "hospitalitis".

However, there is a limit to this argument. The health sector, because of its size and its growth, has had one tremendously important function: it has put health on the national agenda, and on the agenda of all the lower administrative levels, down to the level of the individual. No doubt it has

also demobilized some people, making them less able to engage in self care and care for others; but it has served to establish a priority even if many of the gains have been made by non-health sectors. These gains might have been steered in other directions had the health sector not existed, however.

Let us then turn to the non-health actors in the public (governmental) sector: the other ministries (and their counterparts at lower administrative levels). The Norwegian legislation and set of regulations in health-related fields are very rich and this is not the place to go into detail as the way legislation works is relatively obvious. Mention should only be made of two less obvious examples, affecting health.

Here is a presentation, as seen from abroad, of the first example:(28)

"At a press briefing in November 1974 the Norwegian delegation to the World Food Conference unveiled what appeared to be the most comprehensive food and nutrition policy attempted by the government of any developed country in peace time. Their plan envisaged a substantial reduction in Norway's dependence on imported food and animal feedstuffs, the strengthening of domestic agriculture to cope with possible interuptions to external food supplies, and the deliberate use of agriculture as an instrument of social policy for slowing the drift of the population to the towns and for improving the rural economy. The most remarkable part of the plan, however, dealt with the strategy for persuading Norwegians to adopt healthier eating habits and to reinforce the "persuasion" with food pricing and production policies - the whole scheme to be underpinned by an intensive programme of nutrition education aimed at the entire population from infancy to old age. ... the motive of the Norwegians in jumping the gun was honorable enough: they wanted to make an unequivocal statement to

the conference that "the diet of the developed countries should not be taken as a model of satisfactory nutrition", and to show that at least one developed country was prepared to back up pious advice with action."

The concrete measures envisaged included "a levy on imported feedgrains /so as/ to persuade farmers to use more of the excellent - and free - Norwegian grass;" because "grain-fed animals tend to have about two thirds of their body fat in saturated form, whereas the fat of grass-fed animals is usually only one third saturated. And then there is the -

"pricing policy /that/ will ensure that sales of margarine (made from high priced imported oils) will be drastically reduced. By refusing to subsidise sugar and allowing its retail price to reflect the true import price, the government hopes that consumption will stabilise at around 35 kg per head per year - considerably lower than the 57 kg figure for Britain (1974)."(29)

The problem is that virtually nothing of this was implemented, and the 1980 consumption was 41 kg per head. However, as an example it shows some of the potential characteristics of Norwegian public administration:

- ability to design multi-purpose programmes (in this one, for instance, there is also an obvious defense component) that presupposes some level of interministerial coordination;

- a faith in conventional science and willingness to translate findings into action programmes relatively quickly, perhaps too quickly;

- the missionary aspect, going abroad to conferences to announce all of this, obviously also trying to convert others;

- action, however, may fall short of the plans - but in this Norway is not alone.

The other example is taken from a different field, relating to problems of mental health:(30)

> ... the Norwegian Act of Occupational Environment, among other things, stresses the importance of self-direction at work. By keeping to this guideline in the planning and administration of work, it is likely that psychological distress and even mental health problems will be reduced, especially among younger workers with education."

Dalgard, from whose highly interesting article this quotation is taken, finds a relationship between psychological distress and closeness of supervision at work, particularly for those who have a certain level of education. But what about those with a lower level of education? Could the Act mean that they will be forced into a higher level of self-direction at work than they are able to cope with and that this will lead to increasing psychological distress?

Finally, under this heading, let it be mentioned the way in which the school system in Norway has been an extremely significant carrier of positive health resources, not only in the teaching of knowledge and norms about health, but also in the practice of washing hands (e.g. after defecation), brushing teeth, eating what nutritionists declare to be healthy food (school luncheons, but these are now basically out and local stores supply doughnuts

and cola drinks) and an elaborate system of school dentists and school physicians - the latter particularly in the fields of ear-nose-throat and eye diseases. Thus, health concerns are hooked effectively onto other sectors and resources are supplied by them, e.g. the military through compulsory service (for the able-bodied).

Structure. A quick description of the Norwegian social structure[31] might well emphasize four characteristics: it is homogeneous, homologous, egalitarian and participatory; meaning relative to most other societies, not necessarily relative to ideals and ideas that Norwegians might have. The health impacts of these characteristics are far-reaching.

The homogeneity has both racial and ethnic dimensions: almost all inhabitants are white ("Caucasian"), speak Norwegian and are members of the Norwegian Evangelical-Lutheran Church (1980 about 92%), perhaps by birth more than by conviction in the case of most of them. Concretely this means that there are no steep racial/ethnic dividing walls in the middle of society, with those on one side of the wall controlling health resources, favouring their own kind. There are some walls, however, on the periphery of society, marginalizing small segments: the Samic minority, Gypsies, and foreign workers. Wherever such walls exist there have always been health implications: the marginalized are less included in the machinery, have access but do not necessarily make use of it because they feel alienated from mainstream society, etc. No doubt, however, this homogeneity has greatly facilitated the deep penetration of national health services, not only communal ones, to the vast majority of the population.

The homology, or structural homogeneity, means basically that Norwegians relate to each other fairly much the same way all over the country and in different institutional settings.[32] There is neither automatic acceptance

nor automatic rejection of authority, meaning neither positive nor negative authoritarianism, to give one important dimension. Norwegians want good reasons for what they are expected to do; if the reasons sound convincing they are willing to go far to fulfill the norms and expectations that precede or follow in the wake of these reasons. This is particularly important in a country with a high level of mobility: one gets used to a certain way of doing things, in one organization, and finds by and large the same pattern regardless of where one moves and settles. Combined with homogeneity the implication of this, however, is also what may become an increasingly negative health resource: a lack of diversity, a tendency to administer exactly the same health resources in exactly the same way to everybody, with obvious consequences such as lack of experimentation, and attachment to outmoded approaches. Homogeneous schooling reinforces this.

The equality is the vertical aspect of social differentiation where homogeneity is the horizontal aspect (in practice the two very often go together, an element of heterogeneity is used as the peg on which heavy class differentiation can be hooked). When we say "equality" it is certainly not to deny that class differences exist in Norway - some of the data given above indicate that there are class differences in the field of health. But what it means is the absence of solid dividing floors in society with health resources entirely controlled by those at the top in favour of their own kind, with little or no concern and empathy with those lower down. Norwegians across class borders have a tendency to relate to each other with a certain ease, relative to what is found in other societies, no doubt to a large extent because outdoor life in nature, serves as a great equalizer ("i naturen er alle dus"). How this sense of equality is expressed without really threatening the class system will be discussed below, under "distribution".

The participation aspect is very important. There are four million Norwegians and they share among themselves 12 million memberships in voluntary association - almost all of them good vehicles for spreading health related messages and practices, yesterday about hygienic practices, today about exercise and nutrition, tomorrow about whatever may be held to be relevant for the even newer diseases.

But there is also a more specific aspect to this.(33) There are many Norwegian voluntary associations directly related to health. The four big ones: Norges Röde Kors (Red Cross, founded 1865) Norske Kvinners Sanitetsforening (Women for Hygiene/Sanitation, founded 1896), Nasjonalforeningen mot Tuberkulosen (founded 1910) and Norsk Folkehjelp (Aid to the People, founded 1939) differ slightly in social recruitment, and in 1920 (the first three of them) had 193,000 members in 1,143 local sections and in 1940 385,000 members in 2,041 local sections - and in addition to that about half a million collectively associated members. Already in 1955 they had as much as 1,300,000 members in 4,200 local sections - 600,000 individual members and 700,000 collective - amounting to between five and six local sections per municipality, on the average. There are also a number of smaller organization: Norges Vanførelag (for the handicapped), Norges Blindeforbund (for the blind), Mentalhygienisk Forening (for the mentally ill), etc.

One important point about these voluntary associations is their ability to get into every nook and corner of the society, to seek people otherwise not easily detected by the public apparatus. Even though Norwegians in general trust public authority - because of the homogeneity, homology and equality mentioned - there is a limit to trust, and this is where the voluntary associations enter. The significance of Christian organizations, in this connection, should probably not be underestimated either: even when not

directly involved with health matters they provide a network for locating and identifying suffering people and can direct others to them. This facilitates local initiatives.

Whereas homogeneity may be decreasing because of the foreign workers, homology, equality and participation probably are not, meaning that these are health resources in the social structure likely to increase further with the social processes. It should also be mentioned that population growth has been slow[34] making it not too difficult for the health services to catch up. During recent years the health services have been growing more quickly than the population - but partly due to an aging population Norway may now be entering a phase of negative population growth (the growth was only 0.3% in 1979 and 1980) making a population half of the present size by the end of the next century a possibility, whereas the health services are still expanding. What kind of problems that will lead to later in terms of overprotection and overprofessionalization are already a standard item in Norwegian health debates, but not on the agenda for concrete action.

Culture. There is something in Norwegian ethos that would seem to favour health growth: to be healthy means more than a sense of "well-being" which people may not even have; what they have is probably more a sense of "dis-ease" when they are suffering from diseases. The point is that to be healthy is something to be proud of, to be ill is something to be ashamed of. Much of this must be rooted in Christianity and ancient ideas of illness as punishment. In Christianity that would be punishment for one's own sins in this life, not a karma one has to carry throughout life. But that means that something can be done about it and that if one succeeds in getting healthy, this is a sign of already having atoned for the sins, of God's workings ("Gud stär attåt") - as so much of Protestant/Calvinist mentality. The

healthy-ill-healthy career pattern not only mirrors the righteous-sinful-righteous career, but is directly related to it through God's intervention. Fundamentalist faith along such lines, however, would have as a consequence inaction to become healthy again - neither self-care, nor the care from others, professional or not. Health would come about by itself as a result of God's forgiveness. But like Weber's entrepreneurs Norwegians are perhaps more practical about it: God needs some assistance from the individual who has to work hard, on health or business or both - and then God lets him succeed if He so wills. It is easily seen how well this gives to the word "pure" compatible religious and hygienic connotations.

In modern, more secularized Norway, this takes on other meanings, although the basic process remains the same. To be ill means that one somehow has not taken care of the body. To take good care of the body one should be close to Nature, much outdoor life, fresh air, exercise and sports, healthy foods and life-style in general. To be ill - unless it can be "excused" as acute and relatively unavoidable - means that one has not lived up to this obligation, which for most Norwegians probably no longer is an indication that one may not have been a good Christian, but something more like an indication of not being a good Norwegian. The amount of scorn heaped upon a child sitting indoors on a warm, sunny day would force most children out in the open air - and as long as that air is good enough to be a positive health resource this pattern has probably played a positive role. At this point the general egalitarianism of the Norwegians plays an important role: if closeness to nature is practised Norwegians in general will look like workers in outdoor occupations, farmers, forestry workers, construction and road workers, etc.; in other words like what conventionally would be referred to as working class people. To look pale and well protected from any closeness to nature carries no prestige - not for women either in a country where the ideal of beauty is to look healthy, not like a TB patient.

The relationship of Norwegians to Nature has a clearly animistic character. Nature gives strength, and more so the closer one comes - meaning being able to survive without much equipment, preferably even alone. Closeness to Nature, like to the Protestant God, has also to be on an individual basis; meaning that building a healthy body with a mens sana in corpore sanem at least to some extent has to be the task of the individual. Not to do so should lead to bad conscience even in the most secularized Norwegian.

There is a particularly important and synergistic combination of the institutional, structural and cultural factors we have mentioned. A norm from the health sector, such as: - thou shalt wash your hands, thou shalt use contraceptives, thou shalt not smoke - may be accepted, partly because it comes from a generally trusted norm-sender, the health authority, partly because it is directed to all Norwegians (homogeneity and equality), partly because it is communicated in fairly identical manner through a dense network of similarly constituted organizations (homology), and partly because it can be brought on standard Christian commandment form as a norm with the individual both as norm-receiver and norm-object. It indicates action the individual can and should do with and for himself, with consequences within and for that individual. A norm like "Thou shalt not advertise tobacco products" to the tobacco industry was immediately more complex and required a political fight. But the fight was nevertheless won, probably because it could be hooked onto the mechanisms just described.

It is interesting to note that a leading Norwegian health researcher, such as P. Hjort, puts his advice to the Norwegian public in the form of ten commandments.(35)

1. Take responsibility for your own health
2. Make use of your body
3. Stop smoking
4. Food is one half of health
5. Get healthy through sleep
6. Do not overstress
7. Be at peace with your family
8. Avoid accidents
9. Respect for alcohol
10. When you are ill do not always use a pill.

(Hjort actually points out that Norwegian Adventists seem to live according to such rules and have very low mortality). The number ten, of course, carries extra conviction (it would have to be 4 or 8 in a Buddhist country - 3 or 7 or 12 could also work in a Christian country). These are typical life style rules, even if some of them may not always be possible to practice on an individual basis. Thus, rules 6 and 8 above may be more easily said than done in modern society, but much more so than a life-style rule like Grow your own Food, or Do not use private cars - the soil may not be available, collective transportation may not be available and the distance to work may make bicycles impossible. Whether this whole normative approach works remains to be seen; it is an empirical problem.(36)

Distribution. The distribution of positive and negative health resources is obviously of key significance. Consider these four societies:

	Inegalitarian societies	Egalitarian societies
The lowest not protected	A	B
The lowest protected	C	D

In society A there would be big class differences and the most disadvantaged would be left to fend for themselves - meaning in practice that positive health resources (everything that builds resistance, including preventive medicine and the best physicians, clinics, medicine, even simple advice and early diagnoses) would be monopolized by the higher classes and the negative health resources (everything that increases exposure, like garbage dumps, pollution, infected waters) would abound in the environment of the lower classes. From this miserable situation, surely an adequate description of many Third World societies today, one could then proceed in two directions that do not exclude each other: decreasing the class differences by distributing positive and negative health resources more equally (society B), or by protecting the lowest by fighting the negative resources and increasing their access to the positive resources (society C).

It is mainly the latter that Norway has done: lifting the bottom levels up through hygienic practices already introduced to the higher classes, and through the dense network of health services, in principle accessible to all. As we have seen, there are class differences in the enjoyment of health because Norway is a class society, even an inegalitarian society although there is a spirit of equality and Norwegians tend to see themselves as equal -

which is why we have nevertheless listed equality as a structural characteristic above, Norway is probably somewhere between C and D in the table). But higher class patterns of health achievement are relatively quickly transmitted through a social structure with no or few impenetrable walls and floors. Today this means that within a relatively short time span upper and upper middle class life styles, such as those indicated in the "ten commandments" mentioned above, will probably "trickle down" in Norwegian society, through the energetic and efficient work of the dense network of organizations.

The role of Christianity in opting for a society of type C rather than type B should not be underestimated. Christianity never argued for a classless society ("the poor will always be with you"), but did argue the good samaritan work "unto this last". Unlike Buddhism that preaches a middle way with both a floor and a ceiling on material consumption, and unlike Hinduism that preaches neither floor nor ceiling as it all depends on the karma, Christianity may be said to preach a floor, a bottom level guarantee so to speak, but no upper limit, no ceiling. A social democratic welfare state fits this general idea of a security net (e.g. with a social security system) just as uncontrolled capitalism goes well with the Hindu concept and socialism with the Buddhist concept. The Norwegian health services have been directed for the last almost half a century by social democrats with socialist leanings, building a solid, general basis of generally accessible health services - with the weaknesses generally discussed - and with limitations on special services for the rich and very rich. The latter will probably go abroad (to the United States or Switzerland) if they want very special service, also in order for such action not to be visible. And yet their control over negative health resources is limited: at least one hundred times more money is spent on promoting such negative health resources as sugar-rich, carbonated soft drinks than on health information of the soft, gentle kind indicated above.(37)

Production. Norway has been through a long period of economic growth and is now (1981) country number 8 in the world in terms of GNP/capita, number 9 being the United States.(38) But economic growth as such is hardly a necessary condition, and certainly not a sufficient condition for health growth. What matters is the production of positive health resources and whatever is needed to eliminate or reduce the impact of negative health resources - the rest is a question of distribution. The Chinese way during the cultural revolution was probably more a pure case of society D. Of course, the health services described above cost money (7% of the GNP), but then it is not at all obvious that such an expensive service is needed or even useful. As the critics say, costs could probably be reduced considerably provided something else were put in its place such as structures with much more self-care and other-care. But that will only come when there are fewer Norwegian believers in professionalism. Much of the health service is simply a by-product of an urbanization/modernization/industrialization process that requires similar changes in other social sectors.

It is interesting in this connection to look at what is needed to reduce the impact of health impediments. Concretely, these can be seen as the hazards of natural and human-made environments, such as:

natural environment - excessive cold (heat not being a problem in Norway)
excessive humidity (drought hardly a problem in Norway)
bad harvests or catch of fish (bad years, "uår")
disease-carrying vectors
floods, avalanches (earthquakes no problem in Norway)

human-made environment garbage, pollution

industrial accidents

traffic accidents

stress-producing social structures

malnutrition

hazardous consumer-items (spray cans, chemical soap, etc.).

soil depletion

excessive food processing

Obviously, good housing and good clothes mean a great deal as does a pattern of production, and importation of foodstuffs, so as to even out the deficit when bad years strike. People who cannot keep warm, dry and in addition are hungry, have obviously a lower level of resistance and are more susceptible to infectious diseases - a factor possibly much more important than the seek-and-destroy tactics used against the vectors, including the isolation of the infected and the inoculation of the non-infected.(39) And there is no denying that some economic growth has been necessary to bring about these conditions of hygiene, shelter, clothing and adequate nutrition - but probably not as much as Norway has had.

Looking at the list of health impediments in the human-made environment it is interesting to note that they are the by-products, or even the conditions, of economic growth, including bad nutrition based on ~~processed, additive infested food devoid of natural fibers etc.~~ nutrient-deficient fat and sweetened foods full of additives and environmental pollutants, lacking in fibers and enzymes.(40) And, being "by-products" they are also considerably harder to deal with, as most critics of economic growth-oriented societies point out.

Again an important synergistic effect should be pointed out, combining all factors mentioned so far. In Norway health growth (according to model C) started long before economic growth really made Norway very rich.(41) The

growth was based on what at that time were labour-intensive industries (shipping, forestry, fishing and mining), meaning that many people were involved. Their health was important for production and reproduction whereas in poor societies today growth can be obtained in a much more capital-intensive way, with few or no "workers". The owners of the means of production, private or public, do not have to share positive health resources. They may do so for ideological reasons, but not to maintain production and reproduction. In that case it is much more likely that a small elite will concentrate on the expensive diseases of overdevelopment and monopolize the most costly positive health resources, combining this with some perfunctory activities lower down in society. It is easier to convince a capitalist that he should pay taxes to the State so that the State can provide free hospitals for the workers (and they were free even during the depression of the 1930s) so that the capitalist does not have to think so much of reproduction expenses, than to convince the capitalist owner of an automated factory that he should pay for the social security of workers he never sees because he does not need them for his production.

Nature. Most of what can be said about nature has actually been said already. It is sufficient here only to point to an important ambiguity. On the one hand, nature is the basis of our life and health, not only a but the positive health resource from which all others derive. This should lead to closeness, even worship of nature - and we have pointed out that there is a solid streak of this in Norwegians. But on the other hand nature also offers health obstacles and hazards. Norway is not extreme in either of these regards. It is not a proverbial South Pacific island where food abounds and can be picked off the trees or fetched with ease from the streams, nor is it a hostile, always dangerous, hazardous nature with earthquakes and tsunamis, with poisonous fumes and barren deserts. There is plenty of fresh water almost everywhere and at most times. The air is good, but the climate is difficult -

one needs protection. There is plenty of fish most of the time, even game. There are also berries and roots during certain periods. Production for storage is a necessity. So one has to be both protected and be close, careful and friendly, reserved and open - which may be the way nature trains Norwegians and forms Norwegian national character in general. It is easily seen how countries with more extreme types of nature in either direction may learn neither protection nor how to make use of nature - for the benefit of health, individually and collectively.

In conclusion, and as a way of testing all these hypotheses about Norway: what kind of attitudes do Norwegians have in relation to health? Of course, attitudes are bad predictors of behaviour, but they tell us something about the type of value-climate in which health measures are launched. Below are the attitudes explored by the Norwegian Gallup Institute over a period of twenty years from 1947,[42] divided into three sections: ideas about the factors determining health and illness; ideas about the health service and ideas about "the last things", about death. It is unfortunate that later figures are not available.

When asked (in 1954) to "Mention three things that according to you are most harmful for health", the answers were alcohol (59%), smoking (58%) and too little sleep, night parties (22%). Bad food, bad housing and coffee were next in line (17%, 12% and 8% respectively). One senses a puritan Norwegian bad conscience behind these answers, but since alcohol and smoking are very real problems in the current Norwegian health picture the situation would have been much more problematic had the findings been different. The population is simply realistic, although at that time not conscious that bad food should be higher on the list.

The dilemma of smoking is clearly seen from the increase in people reporting that they smoke (36% in 1947, 35% in 1954, 42% in 1957, 46% in 1964) and the increase in people trying to smoke less (3% in 1954, 9% in 1957, 22% in 1964). Obviously, the officially, even legally backed measures that came later were launched right into the dilemma, but riding on a wave of non-smoking that needed some recognition and encouragement. Of course, non-smoking is most easily prescribed for the smokers by the non-smokers themselves, as when the sample (mainly adult) are of the opinion (72% in 1954) that chocolate and candies are related to caries, and (85% in 1958) that something ought to be done about it. But overweight, a problem for adults rather than for children, is something only 33% of those who would like to weigh less (1951) have tried to do something about even though 79% (in 1957) feel that overweight people are more susceptible to heart diseases, and 64% that they live shorter lives.

The most dreaded disease is, ~~of course,~~ cancer (54% in 1950) ~~when it was~~ followed by tuberculosis, 17%. The latter is a sign of how recently this disease was important in the minds of the population. And the population was foresighted. It felt, at an early stage, that the mortality from cancer was increasing (50%, in 1949 - as against 15% who felt it was decreasing). The population wants information (77%, in 1966) both about cancer and about heart diseases - only 15% are against it on the ground that it creates too much anxiety. Moreover, the population is also up-to-date as to what causes these diseases (also from 1966); relating them to life-style and not do, for instance, viruses.

Heart diseases		Cancer	
fat, fat acids, etc.	22%	smoking	74%
bad food	14%	pollution	15%
overweight	10%	hereditary	1%
lack of exercise	20%		
smoking	3%		
hereditary	1%		

Again the point is the same: there is a good distance from knowledge and attitudes to action, but general education and a tendency to believe what health authorities say have at least prepared the ground. Or, could it be that the population was even ahead of the authorities?

Norwegians believe in vaccination of everybody under 45 against polio (62% in 1955) and almost as many under 40 do so or intend to do so (55% in 1957). They also feel (68% in 1963) that young Norwegian doctors should be ordered to serve in peripheral districts for some period so that everybody can have access to their services. On the other hand, and this is an interesting trait: attitudes to healers of various kinds are not negative: 38% feel that people who are ill can be cured through prayer and the touch of a hand (48% felt no, in 1950) and of those 38% two thirds feel this applies to all diseases (half of the others think it only applies to nervous diseases).

Norwegians want to be told (71% in 1948) if they have only some months left to live or if they suffer from cancer (81% in 1949). And they think of death (73% in 1949) and claim not to be afraid of it (75%). In short, a relatively rational, easy people

4. THE CASE OF NORWAY: TOWARDS A MODEL OF HEALTH PROCESSES.

Given all this knowledge and some hypotheses about health processes in Norway during the last one hundred years or so, it now seems worthwhile to try to capture the essence of this process, in a synthesis that might be developed into a model. Ideally a model should yield not only an understanding of past and present, but also help us look a little into the future, identifying strategic levels for health processes. Obviously, we then have to simplify, using the general ideas in the proceding chapter.

First, we shall assume nature and culture to be relatively stable, changing only slowly if at all within limited time spans. They, then, constitute the basic parameters within which health and development in general have to evolve. If they are by and large positive as resources make use of them; if they are negative something has to be done about it.

Second, we shall divide society into four sectors; on the one hand a growth sector versus a distribution sector (same as "production" in the preceding chapter); on the other hand a formal sector versus an informal sector, the former corresponding more to what was called "institution" above, the latter to "structure" in general. This is important because it permits us to identify the process often referred to as "development" as something based on the growth sector and the formal sector, but with the distribution sector playing a considerable role in socialist/social democratic countries. One may even say that in development there is a "hard" line based on the growth and formal sectors, and a "soft" line based on the distribution and informal sectors.

Third, and this is more controversial, we shall by and large assume that development style or line is more of an independent and health more of a dependent factor in the health/development interface, but the relation is certainly a complex one.

The special case of Norway is characterized by long-term growth; distribution relatively constant in terms of distance between high and low but with the material situation of the low improving considerably; a steady increase in the significance of the formal sector taking over more and more of the functions of the classical informal sector; and, consequently, by a decrease in the significance of the informal sector. Statism, capitalism and professionalism were the three pillars on which this development style was based, as "modernization". A formal health sector had to be custom-tailored to this formula, just as a formal education sector (known as schooling - we do not have a corresponding word-pair in the field of health). Concretely this means not only that it had in the longer run to be centralized with the directorate of health, the main seats of companies in the medical sector and key institutions for teaching/learning/research located in the capital, and vertical. There also had to be integration among the three pillars, with the state controlling and certifying pharmaceutical and other medical products, and (with approved education) health professionals at all levels. All of this had to be done according to the strict rules of the formal sector: decision-making according to laws and resulations; market transactions according to prices; and professional conduct according to the canons for scientific research and technical and ethical codes.

This leads to modernization, but also to problems. The following is a list of general consequences and health consequences, in a country like Norway, of the hard line of development being so strong and the soft line

relatively weaker. It is done by dividing the total process into five bundles with four aspects for each, and the health consequences into four clusters, or four generations of disease patterns. It should be noted from the very outset that the conclusion is not that the hard line is all bad and the soft line all good. They should rather be seen as phases in the development process; moreover, they can be combined as was done in Norway with the emphasis on distribution and decentralization.

	GENERAL CONSEQUENCES OF STRUCTURE/ PROCESS	HEALTH CONSEQUENCES IN A COUNTRY LIKE NORWAY
Formal Health Sector growth	Decreased exposure: hygiene, sanitation, quarantine. Increased resistance: immunization, etc. Other forms of preventive medicine Primary, secondary, tertiary care (curative medicine and its inputs).	First cluster: -infant mortality down -infectious diseases down -nature-generated accidents down -longevity increase -population increase
Bourgeois Way of Life	Non-manual work, with gradual abolition of heavy, dirty, dangerous work. Material comfort, counteracting climatic fluctuations of nature; assuring more stable food supplies better and more food; also leading to lack of exercise, cars. Privatism, withdrawal into family and peer groups; observerism. Security, leading to rising entitlements, and to clientelism.	

Chemical Circus Way of Life	Alcohol, tranquillizers, drugs, narcotics Tobacco, tea/coffee, sugar, salt Chemically treated food; panem (but with natural fibres removed, etc.) Circenses, TV, spectatorism, sedentary life.	Second cluster -cardio-vascular diseases up -cancer up -society-generated accidents up -longevity stable -population stable
Exploit-ation	Exploitation of Nature, ecological balance down, depletion, pollution up; nature as health resource down Exploitation of Self, ever higher productivity leading to alienation, stress Exploitation of Inner proletariat first heavy, dirty, dangerous jobs; then non-manual, push-button, boring Exploitation of Outer proletariat first economic exploitation; then export of heavy, dirty, dangerous jobs and pollution Relocation of industries and dumping of products in TWC's	
Informal Sector Decline	Local self-reliance break-down Family cohesion break-down Young people lonely; school ghettos Old people lonely; old age ghettos Handicapped isolated	Third cluster: -chronic diseases up -iatrogenic diseases/ hospitalitis up -mental disorders up -suicide up

Informal	Self-care down	-population decrease
Health	Mutual care down	-longevity decrease
Sector	Other care down	
decline	Positive folk medicine down	
	Unemployment	
Growth	Leisurism	
crisis	Aggressive marketing in time and space	Fourth cluster
	War, to generate more demand	-genocidal war
		-destruction of formal health sector

This is not the place to spell out the general development theory behind this scheme, but to focus on the clusters of disease.

The first cluster is pre-industrial or traditional consisting of infectious diseases. It is the success in fighting these diseases that has given the formal health sector its prestige together with such basic aspects of the "modern" way of life (here called "bourgeois", that of the burgher) as abolition of much heavy, dirty and dangerous work, and material comfort. But there are also negative aspects of this life style, particularly obvious in what is called the "chemical" or even "circus" way of life, spelt out in the scheme. And these negative aspects cut into the very root of the growth syndrome, the tendency to "develop" through exploitation of nature, of self, of inner and outer proletariat in the ways indicated. Exploitation means pushing something or somebody beyond its capacity to regenerate itself - leading to basic diseases.

And this is where the second cluster of diseases, of industrial or modern societies enters, with cardio-vascular diseases and cancer at its center. They came as a surprise, and the hygiene/sanitation/quarantine/immunization approach combined with higher levels of material comfort proved irrelevant, sometimes even counterproductive. Not so strange in retrospect: to each social formation its pathological profile. The social formation that proved effective in combating first cluster diseases proved equally effective in producing second cluster diseases. And that new social formation, "developed", "modern", "industrial" also quickly led to the decline of the classical informal sector of society in general, and of the informal health sector in particular.

And that is where the third cluster of diseases enters associated with post-industrial or neo-modern societies. In the psychosomatic interface the stress is now more on the "psycho" side, also nourished by the uncertainties about the consequences of growth as such, the growth production crisis inherent in this type of society - or so it seems. And that uncertainty today leads to a fear of war probably unparalleled in human history, not in terms of probability but in terms of possible consequences: the fear of a war with weapons of mass destruction, particularly a nuclear war. And that is the fourth cluster.

How would all of this show up in terms of mortality? The theory of a succession of partially overlapping clusters is consistent with increased longevity and the mortality transition from infectious diseases to cardiovascular diseases and cancer, or society-generated accidents rather than nature-generated ones. Control of nature has been obtained at the expense of creating a society that exacts its toll. And in this society the formal health sector is itself a factor with iatrogenic diseases, hospitalitis, etc.

Somatic diseases are controlled relatively well in the sense that the mortality goes down, but at the expense of somatic morbidity (the chronic diseases that increase), not to mention the mental morbidity - in short the mortality-to-morbidity transition. One new mortality factor may emerge with increasing strength: suicide, as a cause of death. Looking at the totality of the second/third clusters syndrome it is in a sense not so strange if such reactions should surface: it is the story of a social formation in decline, at the social, mental and somatic levels. The basis for the WHO "state of well-being" is eroded; and this may ultimately show up as population decrease, even as longevity decrease. The size of a population, not only its mortality/morbidity, is here included as a health consequence, positive or negative depending on the circumstances. Health is also a question of the number of healthy people sustained by a society.

From a glorious past to an uncertain future - that is the general story. But with possibilities, to be explored in the conclusion.

5. CONCLUSION: ARE THERE LESSONS TO BE LEARNT?

Contrary to what many seem to believe it is not obvious that there is so much to be learnt from Norway. The natural and cultural parameters were very significant, with a nature filled with quite well distributed health resources, and a culture stressing themes of health, growth and distribution. Norway was a good point of departure for a modern health system; it was not the case, as the saying goes, that "you should not start from here". However, in countries with very little fresh water, so densely populated as to offer no area of recreation, with an emphasis on karma rather than on health as a value and the individual as responsible, and with neither faith in progress nor in egalitarianism and compassion, the situation must be quite different. Things

can still be done, but probably by remuneration or punishment, the carrot and/or the stick, rather than the focus on persuasion and reason and self-interest by and large characteristic of the Norwegian approach. Unless the parameters are changed(43), which is not easy. Norway was/is fortunate in this regard providing a matrix of fortunate factors within which action became more easy, and less dramatic.

Improving the living standard, gradually removing dangerous occupations, including exporting them to other countries or to immigrant workers, and getting sufficient surplus money and power to the center to build up a formal health sector with primary/secondary/tertiary health care services and coordinated, universal hygienic sanitation practices and preventive medicine in general all over the country was not easy. It took some time. However, Norway's position, as a part of the economic center of the world, benefitting from the international division of labour, making money on trade/shipping, and geographically/structurally/culturally close to countries that served as model (e.g. the Bismarck welfare system) made the job easy relative to what it is today for a country in the periphery. Many periphery countries would have nobody to exploit, nowhere to export dangerous occupations to, and no models nearby. The models would be a foreign element grafted onto the social body, sometimes even contrary to their civilizational values.

One cannot say that there was a master plan, or even a master mind, behind the Norwegian health processes. Inter-ministerial coordination, with legislative and other regulatory devices, was significant both for the hygienic campaign of the first cluster, and the life style campaign of the second cluster. But the three pillars of the formal health sector (decreasing exposure, increasing resistance and curative medicine) emerged as the health aspect of general bureaucracy-corporation-intelligentsia coordination, with

all its strong and weak aspects. The general model for how to do things was already there, it was a question of applying it to the health sector. The negative effects of all this activity came as a surprise, even as a shock.

If there is something to learn from Norway in a positive sense it must be in the field of distribution, not in the sense of total equality, but in the sense of uplift of the poor. It will always be the case that there will be a social residual of people who combine being underprivileged in general, being of poor health, and not being serviced by the system - whether it is because the system does not reach every corner of society or because the particularly resource-weak do not reach the machinery. The focus was on a relatively low health distance between highest and lowest from the very beginning, at least compared with other countries. But in implementing this ideal Norway was greatly helped by some cultural and structural conditions: the compassion/solidarity element mentioned, and the factors of homogeneity, homology, equality and high level of participation. A society like Norway had relatively porous walls and floors, and a high level of communication, not only through mass media and primary groups (the "two step flow of communication") but also through such practices as the mother insisting on brushing teeth and eating fruits and vegetables, and through all the secondary groups, the voluntary associations. In a heterogeneous, non-homologous, highly inegalitarian society, with dense walls between communities and floors between classes/castes the situation must be different. If growth comes to such a society chances are, as has been said often before, that it will be monopolized by the rich and powerful, to give them enough resources to have responses to the problems posed by the mortality transition - for them. Unless there should be basic social change,[44] which again is not easy, but less difficult than changing a whole culture.

But having said this it should be pointed out that the porous Norwegian society may also have had its problems because of the mobility inherent in a porous society. People move to other places, where in spite of the generally high level of homology in Norway, things are nevertheless done in a different way. There is a problem of "system incongruence" (could also be called "heterology"). People move up, but only on one rank dimension (e.g. education, not money or power): There is a problem of rank disequilibrium (or "status incongruence"). Both conditions may be components of the general stress syndrome referred to and important in the understanding of second and third cluster diseases.(45) If this is a factor of major significance it might wane in importance when/if the population gets more settled geographically and socially.

If there is something to learn from Norway in a negative sense it must be in the field of overdevelopment, in the lack of ability to cope with the new mortality/morbidity picture, to understand it, and even to conceptualize it. The excessive positivism of medical research, always insisting on statistical data (based on fairly small samples, though), and preferably on time series, becomes a methodology transformed into ideology. Processes have to develop quite far before they are reliably reflected in hard, quantitative data. A different methodology, more based on a holistic appreciation of many small tendencies, would have served as a better warning system, but Norwegian medical researchers are not trained that way.(46) And right now the situation is confused with most of the population probably not quite knowing what to expect except when hit by something as simple as an accident, and large segments of the population, including many in the medical profession itself, filled with disbelief in the health system. To study this process, learn from it, and enter into dialogue with an overdeveloped country like

Norway would appear to be very instructive for a Third World country interested in exploring its own future through the present of another country - in addition to learning from its past. And it might also be very valuable for Norway.

How does the Norwegian health system today cope with the changing picture of health in the country? How much of the diseases of cluster II and III is due to the increased longevity due to the success in decreasing the mortality from diseases of Cluster I, and how much is due to maldevelopment with a heavy component of overdevelopment? All this has not yet been sorted out - in any country to our knowledge. But the general trend seems to be to attribute less to longevity (and its concomitant, the cynical "one has to die from something"), and more to social phenomena in a broad sense (of course even more true for the possible mortality/morbidity from Cluster IV, the use of weapons of mass destruction). Hence, there is a need for epidemiological studies of various kinds, and the central health authorities have been very active in such studies.

During the 1970s several population studies[47] started in Norway in order to map the incidence of cardiovascular disease and the prevalence of risk factors, but also to influence the risk-pattern in a way which would lead to improved health in the population. These large-scale studies took place in three counties (Finnmark, Sogn og Fjordane and Oppland), but also in two cities (Oslo and Tromsö) and one small municipality (Bugöynes). The studies are still not completed, and other regions are likely to become study targets in the future.

The methodology for these studies has been similar in all places: first, men (Oslo, Tromsö, Bugöynes) or men and women (the other regions) were called in by the National Mass Radiography (Statens Skjermbildefotografering) for examination of health status and risk factors. Second, the sample was picked in a certain age group in each place (40-49 in Oslo, 35-49 in the three counties, all men in the small Buroynes community). Third, several groups were compared with respect to risk factors, some of which were given advise concerning risk factors (smoking, diets, exercise) and others not. Fourthly, results were compared over time. None of the intervention studies were intersectoral in nature, they were all carried out by the health sector. The way in which people were motivated to change their exposure to risk factors was solely in the "thou shalt not" category: Do not eat too much fat foods, cut down on smoking/try to quit completely, etc. Nothing was done in terms of changing prices of foods (increased price for unhealthy foods or increased subsidies for fruits and vegetables, for instance), nor was anything done to limit the availability of cigarettes, sweets or fat foods in stores.

Nevertheless, some positive results were achieved. The Oslo studies started in 1972, examining as many as 17,965 men. Of these a group of 1232 men with a high level of blood cholesterol, 80 per cent of whom smoked cigarettes, were chosen for a study of how dietary factors and smoking behaviour could influence the incidence of heart disease. The two groups were composed randomly, one given semi-annual control and guidance and the other no advice on smoking and diets. During a period of five years all risk factors, cases of illness and deaths were monitored. In the "intervention group" the blood serum cholesterol sank on the average by 17 per cent, and the daily cigarette consumption was reduced from 13 to six after six months and stayed at that level. This already proved that some behavioural modification was possible, and at the end of the five-year period, the intervention group had

had significantly less coronary problems than the control group (3 sudden deaths and 16 infarctions versus 12 deaths and 24 infarctions). All men who at the outset of the study were free of heart disease and diabetes were subject to thorough analyses with respect to risk factors, socio-economic aspects and mortality. One conclusion drawn from this large-scale study was again that class and health were related: those with the highest incomes and educational level had the best health situation. And conversely: mortality from heart disease, cancer, accidents and other causes is far higher for lower-class people than for those higher up on the socio-economic ladder.

The studies involving 65,000 men and women in Finnmark, Sogn og Fjordane and Oppland also have given new insight into the etiology of heart disease, and it has proven possible to influence dietary pattern and smoking behaviour for a large number of people. The primary health care system has carried through the studies for the ~~State X-ray Service~~ National Mass Radiography, and as many as 88 per cent of those called in showed up for examinations. Here, as well as in Bugøynes, a substantial reduction in blood serum cholesterol levels has been achieved - about 18 to 20 per cent. All data in connection with these large-scale studies are now being analyzed, and follow-up studies are foreseen. However, we should add that although such studies seem to have a positive impact on people's health, they should be supplemented with political decisions taken by other sectors as well. And not only that, we should look at clusters of diseases which are connected to the whole way of life in our societies, a way of life which can only be changed if there is a combined effort at the individual, structural, social and cultural level in a holistic strategy for health for all.

And this is where it becomes more problematic. We have argued above that the Norwegian social structure is a key factor in understanding Norwegian health, both in terms of how it shapes the formal health sector, and in terms of how it distributes the various costs and benefits of Norwegian life in general. Norway's formal health sector is an outcome of a general social development where economic constraints were of minor significance. In a poor country there emerged a relatively efficient, rational bureaucracy because that was the Norwegian way of doing things The system was relatively decentralized because that was also a major tradition (the high level of municipal self-rule from the 1830s, later on eroded by increasing centralization). If Norway should get a different type of health service, it would, by the ~~principal~~ principle of homology indicated above, have to be as a response to a general structural change in Norwegian society. Such changes may be "in the cards", as part of "green" policies and movements in reaction to the mainstream conservatism of western societies (blue policies).

A SURVEY OF GREEN POLICIES

MAINSTREAM CHARACTERISTICS (BLUE POLICIES)	GREEN POLICIES, MOVEMENTS
Economic Basis	
1. Exploitation of internal proletariat	cooperative enterprises, movements, labour buyer/seller difference abolished, customers directly involved.
2. Exploitation of external sector	co-existence with the Third world only equitable exchange relations.

3.	Exploitation of nature	ecological balance Person-Nature; building diversity, symbiosis; complete or partial vegetarianism.
4.	Exploitation of self	more labour- and creativity-intensive decreasing productivity some fields, alternative technologies.

Military Basis

1.	Dependency on foreign trade	self-reliance; self-sufficiency in food, health, energy and defense.
2.	Dependency on formal sector, BCI-complex	local self-reliance, decreasing urbanization, intermediate techno logy
3.	Offensive defense policies, very destructive defense technology	defensive defense policies, with less destructive technology, also non-military, nonviolent defense.
4.	Alignment with superpowers	non-alignment, even neutralism; decoupling from superpowers.

Structural Basis

1.	Bureaucracy, state (plan) strong and centralized	re-centralization of local level, building federations of local uni?

2.	Corporation, capital (market) strong and centralized	building informal, green economy; - production for self-consumption - production for non-monetary exchange - production for local cycles
3.	Intelligentsia, research strong and centralized	high level non-formal education, building own forms of understanding
4.	"MAMU" factor; BCI peopled by Middle-Aged Males with University education (and dominant race/ethnic group)	feminist movements, justice/equality and for new culture and structure movements of the young and the old

Bourgeois Way of Life

1.	Non-manual work, eliminating heavy, dirty, dangerous work	keeping the gains when healthy, mixing manual and non-manual
2.	Material comfort, dampening fluctuations of nature	keeping the gains when healthy, living closer to nature
3.	Privatism, withdrawal into family and peer groups	communal life in bigger units, collective production/consumption.
4.	Security, the probability that this will last	keeping security when healthy, making life style less predictable.

Chemical Circus Way of Life

1.	Alcohol, tranquilizers, drugs	moderation, experiments with non addictive, life-enhancing things
2.	Tobacco, sugar, salt, tea/coffee	moderation, enhancing the body's capacity for joy, e.g. through sex
3.	Chemically treated food, panem with most natural fibers removed, enzymes and vitamins destroyed, food as commodity, standardized nutrition	bio-organic cultivation; ~~health food, balanced food, moderation~~ emphasis on fresh, unprocessed foods, individualized nutrition, moderation
4.	Circenses, TV, sport, spectatorism	generating own entertainment, moderate exercise, particularly manual work, walking, bicycling.

It is readily seen that what is here called "green policies" are efforts to come to grips with the various aspects of maldevelopment. The "green policies" are incipient actions, today represented by movements rather than by concrete policies pursued by authorities, or even on the programmes of major political parties. But all of this is in transition and it is impossible to predict where and how the current process will end up. A green society should have much potential for health. In fact, there is no doubt that health (somatic, and mental, and spiritual) is for green policies a key indicator in the same way as economic growth has been for blue policies, and control of economic growth for red policies.

How is a country like Norway moving along such dimensions today? As mentioned, there is no scarcity of the moralism that would exhort people to engage in many green "policies" as individuals, even if very strong individuals are required.

Moving through the list there is hardly any doubt that alternatives to the bourgeois way of life are coming into the picture to the point of being more rooted, more structural - less volitional. Collective living is spreading although it is not so easy to locate data[49], and the interest in kitchen gardens, "parcels" and so on, is tremendous among Norwegians.[50]

But when one then moves on up the ladder towards the more firmly entrenched structures, those that are less dependent on individual decisions and cooperation at the level of small groups, there is little change. There is a better spread of health personnel in relation to demographic characteristics[51] including the physicians themselves. There is also a certain move towards demonopolization of medical knowledge: the University of Tromsö, for instance, permits students to take "medicine" as a minor for their exams in other subjects, thus giving more of the population qualified insight into the health professions. This is particularly important in a period when physicians themselves are broadening their training, including social science (so as to cope better with their new roles as amateur sociologists in addition to amateur moralists), with the obvious danger that they may become even more powerful, speaking from the broad platform of a generalist with detailed professional specialized knowledge rather than from the narrow base of the speciality alone. Sooner or later this may lead to a loosening up of the powers of central bureaucracy, the central health authorities, and big corporations in the field of pharmaceutical and other health-related products, permitting more variation and less centralization. This move may not necessarily be to the good.

In the field of military policies Norwegian physicians have recently come out with a very strong statement, showing concern about wars fought with weapons of mass destruction as a health issue (Cluster IV)(52). But one cannot say there is any political follow-up. And the four types of exploitation continue, although in such a way that the pressure on human beings is gradually dislocated from the more somatic towards the more mental end of the psychosomatic spectrum. On the other hand, the need for achievement, competitiveness, aggressive behaviour typical of standard (male) behaviour in these societies is also clearly relevant for health as parts of the etiology of Cluster II diseases. And the export of dangerous jobs to the Third World through new patterns of division of labour is something the Third World will probably soon react to when the first enthusiasm about economic growth and job-creation in the "modern" sector tapers off.

In conclusion let us only emphasize that "Health in Norway" is not something concluded, it is a process - the process is going on right now with efforts to come to grips with the new morbidity/mortality pattern. This also applies to the present book: it can be, and has been, written by many, again and over again, and each author will see some other aspects of that complex process. We have only tried to hang on to some basic themes: or maybe they boil down to one: health is politics, and politics in this type of society is blue, red and green. All three have contributions to make. The best health, as the best politics today, lies in a skilfull allocation of more space to the green policies.

Notes and References.

1. This summary is based on data collected by Dag Poleszynski, whose principal source has been numerous publications from the Central Bureau of Statistics Oslo, but also newspapers, periodicals and journal articles. The present summary does not do justice to the 70 page contribution available upon request from WH
2. "En regional undersokelse av dodeligheten i Oslo 1890-1939; Annen del, Tuberkulose, Andre infeksjonssykdommer og Åndedretts-organenes sykdommer", in Festskrift til helsedirektør Karl Evang pa 60 arsdagen, Oslo, pp.111-120.

3. "Four-year mortality by some socioeconomic indicators: the Oslo study", Journal of Epidemiology and Community Health, 1980, pp. 48-52. The Norwegian version appeared in Tidsskrift for Den norske Laegeforening No. 27, 1977, pp.1380-1383.

4. Of course, all these factors never operate alone. There is the famous study in Finland where people have very healthy occupations but the health of the community could nevertheless be bad due to, for instance, nutritional factors.

5. Jon Ivar Elstad, Kroniske Lidelser og Social Klasse, Instituttet for sosiologi, Universitetet i Oslo, 1981, p.158. Age is seen as accounting for 10% of the variance, no other factor for more than about 2% (of course this depends very much on the kind of statistical technique used).

6. On the other hand, "workers" are consistently above "lower functionaries" and above "managers, academics", for all age groups and both genders, by about 10% in incidence of chronic diseases, so class differences there are even if they are not so pronounced.

7. Says Assen Jablensky, in "Epidemiological Surveys of Mental Health of Geographically-Defined Populations in Europe", in Community Surveys, Weissman, Myers and Ross, eds., New York, 1981: "The association between physical and mental disease in the community is exceedingly common, its frequency being significantly higher than the products of the rates for physical and mental disorder. The association between neurotic and cardiovascular disorders is particularly conspicuous". Also see Saugstad and Odegard, "Mortality in Psychiatric Hospitals in Norway, 1950-74", Acta Psychiat. Scand. (1979), 59, pp.431-447.

8. Einar Kringlen, in his Psykiatri, Oslo University Press, 1980, p.528, sees the risk of developing mental disorders in the typical Western country as 1% schizophrenia, 1% reactive psychoses, 1% manic-depressive disorders, 1-2% senile and other organic psychoses, 3-4% psychopathologies, 15-20% neuroses and 1-3% oligophreny - a total risk of about 30%. His book also gives details of the few Norwegian studies in this field.

9. See chapter by Galtung, Poleszynski and Wemegah in Miles, Irvine, Wemegah, eds., The Poverty of Progress, London, Pergamon, 1982.

10. The growth rate for some cancers is estimated at around 3 percent per year. For Norway, see NOU 1978: 38 Kreftomsorgen i Norge, Oslo. 1978

11. According to "Dyster selvmord-statistikk", Aftenposten 23 June 1981 the increase is for the last ten years, particularly for the young (up from 49 in 1970 to 120 in 1979) and for women (up from 97 to 146 in the same period). In 1970 four times as many men as women committed suicide, in 1979 three times as many. The incidence is higher in cities, particularly Oslo and Bergen, than in the countryside. One may calculate an additional 25% to the officially registered, e.g. camouflaged as

accidents. And then there are ten times as many who try to commit suicide but with no mortal outcome. According to El Pais, 12 November 1980 (Madrid), 10,000 persons try to commit suicide in the world every day.

12. A concept including age, sex, occupation, habitat, income and education in one index - see Johan Galtung, "Social Position Theory" in Peace and Social Structure: Essays in Peace Research, Vol. III, pp. 29-104, Copenhagen, Ejlers, 1978.

13. One could of course add a third, Nature - for the non human-centered changes. See Galtung, "Society and Health", Psychiatry and Social Science 1981, Vol.1, No.1.

14. ibid, with an effort to discuss "quality of death" on pp. 3-4.

15. For a theory of strategies, see Johan Galtung, "Weakening the Strong and Strengthening the Weak: Towards a Theory of Strategies for Development", GPID Papers, Geneva, 1979.

16. Karl Evang, "Helsestellets utvikling i Norge i 75 år", Tidsskrift for Den norske laegeforening, Jubileumsskrift 1955, pp.51-70. The quotation, (our translation), is from pp.69-70.

17. This is a general frame of reference underlying much development research by the present authors. It should only be emphasized that it is all seen as dynamic, undergoing processes, even in long-term processes.

18. Peter F. Hjort, "Helse - en rett og et ansvar" ("Health - a right and a duty", Paper prepared for Chr Michelsen Institute Seminar, Bergen, May 1978. This excellent paper will be drawn upon several times in the following. Also see Helsepolitikken, NOU79: 10 for detailed data about the size of the formal sector.

19. Thus, inoculation against smallpox was introduced by law in Norway 3 April 1810 - see Falkum and Larsen*, p.103. They also give a list of the most important laws in Norway relevant for social policy in general (pp.115-16) (our translation):

1845 Law about the poor

1848 Law about the mentally ill

1860 Bill of Health (Sundhetsloven)

1863 More laws about the poor

1892 Law about work safety

1894 Law about accident insurance

1896 Law about minors

1900 Law about security for the poor (instead of 1845 and 1863 laws)

1905 Law about contributions to unemployment funds for trade unions

1908 Forest workers and fishermen included in accident insurance

1909 Law about compulsory sickness insurance for some groups

1911 Seamen, transport workers included in accident insurance

1946 Law about war pension for military

1946 Law about war pension for civilians

1948 Law about pension security for sailors and 1951 for forestworkers

1953 Law about protection of minors

1956 Obligatory sickness security

1957 Law about pension security for fisherman

1958 Occupational injury security, instead of accident insurance

1959 New law about unemployment security

1960 Law about security for handicapped

1961 Law about psychiatric healthcare

1964 Law about security for widows and mothers

1964 Law about social care

* Helsevernsorgens vilkår (The Conditions for Health Care) University Press, Oslo, 1981.

1914 Revision of 1909 sickness insurance

1915 Ten-hour day introduced

1916 Law about compulsory arbitration

1919 Eight-hour day by law

1923 Law about old-age insurance, but never practised

1931 Law about accident security for industrial workers and seamen

1932 Law about temperance and temperance councils

1935 Fishermen and seamen included in sickness insurance

1936 Law about old age security

1938 Law about unemployment security

1966 Law about "Folketrygd" general social security for all

1977 Law about occupational environment

As can be seen from the list this has been a long process, and a very gradual one up to the law of 1966 (with its shortcomings): gradually covering more cases of distress and more categories of the Norwegian population.

20. Evang, op.cit., p.53.

21. ibid., p.54.

22. ibid., p.58.

23. For an analysis of all of this, see Anne-Lise Seip, Om velferdsstat ens framvekst (On the Growth of the Welfare State), University Press, Oslo, 1981, pp.15-16.

24. ibid., p.58.

25. See Thomas McKeown, The Role of Medicine, Princeton, Princeton University Press, 1979. Also see McKinley, J.B. and McKinley, S.M., "The Questionable Contribution of Medical Measures to the Decline of Mortality in the US in the Twentieth Century", Health & Society, 1977, pp.405-418. An excellent summary of this type of perspective is found in Der Spiegel, Nos.34, 35, 36, 1980, under the title "Begrabene Illusionen: Die Ohnmacht der modernen Medizin", by Dr Hans Halter.

26. The Norwegian experience during World War 2 confirms this. Mortality from acute infections almost doubled during the war, for some age groups even more than quadrupled. What makes the war years different from the pre-war years was particularly the state of nutrition. See Falkum and Larsen, op. cit., p.190.*

27. A concept made popular by Ivan Illich' trend-setting Limits to Medicine. Medical Nemesis: The Expropriation of Health, Penguin Books 1976. For a critique of Illich see Vicente Navarro, Medicine under Capitalism, Prodist, New York, 1976, the chapter "The industrialization of fetishism: A Critique of Ivan Illich". Thus, Navarro does not believe that industrialism as such is the cause of the evils, that what "appears in Houston is likely to appear in Moscow, in Bogotá to appear in Habana, and

* But the mortality from heart diseases, cancer and diabetes dropped significantly during the war, something that can at least partly be explained by nutritional factors, less smoking, etc. See Strøm and Jensen, "Mortality from Circulatory Diseases in Norway 1940-45", The Lancet, January 20, 1951, and death statistics from the Central Bureau of Statistics for the same period.

in Taiwan to appear in People's China as well" (p.107). Of course, Illich' line of de-industrialization and self-care also has its limitations - yet in the view of the present authors Illich has seen and said very crucial things.

28. Colin Blythe, "Eating Our Way out of Debt and Disease", New Scientist, 6 May 1978, pp.278-80, quotation from p.278. However, things are not necessarily as they look from abroad. The percentage of food produced in Norwegian agriculture on the basis of Norwegian foodstuff was, for the period 1974-79, 34.~~8~~ 9, 36.2, 33.~~5~~ 4, 35.~~9~~ 7, ~~35.7~~ 38.0 and 35.7 9, in other words no improvement. The production of potatoes went down from 890 million kilos in 1959, to 635 in 1969, and 520 in 1976. The production of grain has increased from 642.000 tons in 1969 to 1.1 million in 1977 - but the percentage of grain foodstuff produced in Norway ~~is only 15.8 (estimated for 1980) all of this according to the official Ernaeringsmeldingen (Nutrition Report).~~ for human consumption dropped from 19.2 to 13.1 percent in the period 1970 to 1978 - St. meld. nr. 11 (1981-82) Om oppfølging av norsk ernæringspolitikk (p.22)

29. The annual per capita consumption was 39.9kg for 1953-55, 41.9 for 1973 and then from 1973 onwards: 39.1, 34, 29.7, 39.5, 40.4, 40.1, and 41.7 - with 1980 estimated at 39.6. The drop in 1974-75 seems to be due to world market prices, not pricing policy. See: Statens Ernaeringsråd, Årsmelding 1980, Rapport om matforsyning i Norge, Oslo 1981.

30. See Odd Steffen Delgard, "Occupational experience and mental health, with special reference to closeness of supervision", Psychiatry and Social Science 1981, pp.29-42. Quotation from p.42.

31. See Galtung and Gleditsch, chapter on "Norway in the World Community", in Natalie Rogoff Ramsoy and Mariken Vaa, eds., Norwegian Society, Oslo, Norwegian Universities Press, 1974, pp.385-427.

32. Harry Eckstein, Division and Cohesion in Democracy: a Study of Norway, Centre of International Studies Series, Princeton University Press, Princeton, 1966.

33. Evang, op.cit., p.65.

34. The average annual growth rate 1815-65 was 1.30 (Falkum and Larsen, Helseomsorgens vilkar (The Conditions for Health Care), University Press, Oslo, 1981, p.102.

35. Hjort, op.cit.

36. Elstad, op.cit., has some interesting data here (pp.172 and 176) showing that the percentage with chronic disease does depend on life style, and increases with less exercise, as expected, both for men and women, increases with more smoking (for men, not for women) and decreases with more alcohol (for women, not for men). Could it be that an intervening variable here is level of extroversion, leading to alcohol consumption, but also to more exercise, hence to less chronic disease because of more participation, but possibly also to more acute disease? Maybe the research in this field is only in its infancy.

37. Hjort, op.cit.

38. 1981 data. The reference to GNP-based indicators implies no acceptance of that indicator as anything but a very limited indicator of a particular aspect of economic growth.

39. According to McKeown the mortality from cholera, typhoid, measles, scarlet fever, decreased long before the key medical discoveries were made, possibly due to the general improvement in living conditions, already from the end of the eighteenth century, and food production. McKeown ascribes to medicine only about 3% of the decline in TBC since 1850. Also see footnote (26) above. For the case of polio, see B.P. Saudler, Diet Prevents Polio, The Lee Foundation for Nutritional Research, Milwaukee, Wisconsin, 1951.

40. This is not to say that the food was so healthy before, but then it was at least for other reasons. Minor infections and some food poisoning were probably considered part of every day life. See, Falkum and Larsen, op.cit. p.43.

41. According to Economic Survey 1900-1950 (Central Bureau of Statistics, Oslo 1955) GNP for Norway ~~quadrupled~~ almost trebled in the period 1900-1950 and if 1900 is set at 100 then GNP/capita was 271.9 in 1950 (p.59). The real economic growth came afterwards, as did the growth in budgets for public authorities: the public income was 36 million kroner in 1865-1874 and 8,433 million in 1951-1960 (Trends in Norwegian Economy, 1865-1960, Central Bureau of Statistics, Oslo 1966). Thus, it is quite clear that the groundwork in Norwegian public health from 1860 onwards was done in what was basically a very poor country, predominantly agrarian with only 15.6% of the population living in towns in 1865 (and hence relatively easily reachable). The general implication of this, as mentioned, is how a considerable amount of health distribution took place before economic growth - a theme elaborated in the paper referred to in footnote (15) above.- with special reference to Irma Adelman.

42. The data are from Alstad, B., ed., Norske Meninger 3, Velferdsstaten (Norwegian Opinion 3, The Welfare State), Pax, Oslo, 1969, pp.57-73.

43. And here it is interesting to compare the two Gandhis, the Mahatma who tried to change the Indian social structure, fighting caste, communal strife, village dependency and despondency, thereby creating conditions where the health measure could be successful, and Indira Gandhi, who resorted to the well known combination of stick and carrot in the family planning programme.

44. See the preceding footnote.

45. See Holme at al., op.cit. p.50.

46. And Norwegian researchers are certainly not alone in that.

47. Kjell Bjartveit, Olav Per Foss, Thore Gjervig and P.G. Lund-Larsen, The Cardiovascular Disease Study in Norwegian Counties, National Mass Radiography Service, Oslo, March 1979.

48. See Johan Galtung, Concepts and Theories of Development, forthcoming, 1983.

49. Experiments with alternative ways of sharing living quarters range from "pure collectives" to a more limited attempt at sharing facilities like laundry rooms, exercise-room and TV-room. Many joint living arrangements are undertaken because of sky-rocketing living expenses in the major cities, and it seems to be a general rule that some negative learning has taken place with respect to collectives set up on the 1960s that were too close. But according to representatives of the Collective Movement in Oslo more and more people are opting for collective living. How many, will be known more exactly when a survey of such groups has been completed some time during 1982.

50. The interest in small-scale gardening really started surging in the mid-seventies, after the first oil price-hikes in 1973/74. In 1977, 12% of Oslo families grew their own potatoes and other vegetables, and 31% picked wild berries in the forests outside the city. See Arbeiderbladet, 23 July 1977, Inger-Anne Ribu, "Selv-berging i skuddet. 12 prosent av Oslo-familiene dyrker poteter og grønnsaker". To keep up with public demand many municipalities have allocated land parcels to people who want to grow their own food but do not have access to agricultural land.

51. Hospital Statistics, Central Bureau of Statistics, Oslo, 1979, shows quite clearly the good coverage of hospitals and medical personnel on a fylke (province) basis. However, many smaller municipalities in rural Norway are in short supply of medical services due to the emphasis on building central hospitals at the fylke level.

52. See Thoralf Christoffersen and Hans Prydz, eds., Atomkrig i medisinsk perspektiv, Universitetsforlaget, Oslo, 1981.