Health and Development in Norway

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1982 and 2018

Contents

Authors' preface 2018

The manuscript of this book was completed during the summer of 1986, but for various reasons was never published. During the fall of 2017 the authors met in Spain to discuss the possibility of completing the project. We had the choice either of updating the manuscript or to publish it as completed at the time. We found the latter solution preferable, as we felt that the general principles delineated in our original manuscript still apply.

In order to speed up the publication, as well as to keep the cost down, the manuscript has been published as an e-book, which may be downloaded for free from TRANSCEND University Press at `transcend.org/tup`.

Since many years have passed since our original work was completed, we have added a Postscript where we make some reflections on the general model for health and development delineated in Chapter 1, as well as a comment on what has happened in Norway during the past 30+ years, based on Chapter 2: A Case study of Norway. We encourage the reader to save this part and read Chapter 1 and Chapter 2 first, making their own reflections, comparing these with the conclusions there presented.

We are grateful for the help of Malvin Gattinger, the TRANSCEND webmaster and Galtung´s close collaborator, without whom this manuscript might not have been published as an e-book.

December 2018

Alfaz del Pi (Spain) — Johan Galtung

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Authors' preface 1982

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 practice 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. Torbjørn Mork (1928-1992). We would also like to express our thanks to Dr. Aleya Hammad of the World Health Organization and participants in the Workshop of Intersectoral Action for Health, Colombo, Sri Lanka, 1981. The responsibility for the presentation and for the conclusions drawn, however, rests with the authors.

May 1982

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Introduction and Summary

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, but one which one should work towards in an attempt at making societies in which as many people as possible may obtain this high goal, while those struck by accident or congenital malformation, etc., 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 the utopian goal, or whether we are removing us from it. In order to devise health strategies, we need a conceptual framework to start with, and a vision of where we should be going. Our conceptual framework starts with a discussion of human needs, which we then link to the concept of health. If human needs are not met, then there will be consequences for health in one or more of the four categories of needs we envisage. These categories of human needs are seen as universal, but *satisfiers* of those needs (the four categories of needs being those for survival, wellbeing, freedom and identity) will be specific to each cultural and historical setting. The goal of development is then, in this context, expressed in terms of health, which should take precedence over means achievements such as increased GNP per capita, more cars, hospitals or whatever. The level of human and social development can, to a large extent be measured by indicators of health, or more often indicators of ill health, of health deficit rather than health surplus, since they are the ones available. The story might have looked somewhat different had it been in terms of positive health.

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, but there has been no real consistent attempt at promoting the important goal of health for all through inter-sectorial planning. Health in Norway has not been perceived holistically, but has been limited to one sector. However, things are on the move. One indication of even conservative organizations taking health issues seriously is the Norwegian Medical Association, which recently adopted a resolution encouraging the Government to work for a society free of cigarette smoking by 2000.

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 different technologies or a specific different path of development for poor countries, however. Rather, we would like to emphasize the importance of catering to basic human needs in general, to human and social development, in all countries, but the concrete strategies will differ. Health is a total package, but not something which may be delivered from the top to the bottoms – to the clients. The "health delivery" concept may threaten local and individual self-reliance within the field of health and as such, identity and freedom needs, leading to poor health in the long run. Individual and community participation are indispensable, and will always bring in something new that will run against any preconceived scheme.

The Norwegian experience shows that in many cases, there are trade-offs, or diminishing returns, when one just goes on increasing the inputs of means to achieve better health beyond a threshold. Table 2 in our study gives some examples of this, three to be mentioned here: Sunshine, an important source of vitamin D, is also an important factor in skin cancer and premature aging.[1] Jogging, potentially a healthy form of exercise, has been shown

[1] Recent studies (i.e. after this introduction was finalized) show that sunshine may reduce the total cancer incidence and that the UV radiation mainly increases non-melanoma skin cancer, in addition to having a number of other

to lead to "jogger´s knees" and other damages. 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 actors. Cause and effect cannot be established easily and in most cases not at all, since health is the result of a total package. Norwegian anti-smoking campaigns are seen as positive, but it is impossible to know the extent to which they have lead to less disease. At present, ministries such as the Ministry of Social Affairs and the Ministry of the Environment have the job of lessening the negative impact of health caused by other ministries, for instance those dealing with building up polluting industries or promoting automobility. A ministerial approach to health would, however, be much more useful if all ministries were equipped with health-evaluators and had as a primary goal that of promoting health, not of providing more jobs, better roads or new TV-programs.

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, hypothesized 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 any such variable is probably to be found in a middle range rather than in the extremes.

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positive health effects. The total effect of sunshine seems to delay deaths, although it may lead to the skin aging faster (more wrinkles).

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, a sense of belonging? Some indicators like deteriorating mental health, alcohol and drug abuse provide our answer to this. 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 cannot be given too general replies.

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 stagnating) 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 were 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 unchartered 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 Norway succeeded so well with Cluster I diseases, seems to be more related to social distribution than to economic growth. Health services became accessible to almost everybody, to

a large extent practically speaking free of charge in later years when Norway became richer. But from the early period exposure levels were reduced through hygiene/sanitation and quarantine, and resistance levels were built up through immunization [2018 note: vaccines were only introduced when most deaths from infectious disease had become negligible], better nutrition and higher material standard of living, especially better clothing and shelter to protect people against the Norwegian climate – wet and cold.

Distribution worked so well essentially for three reasons:

1. The basic unit of health authority from the law, 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 leas among political representatives, and there was some element of comparison and competition among municipalities. Inter-sectorial linkages came with some automaticity at the local level; people are nearer to the ground.

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

3. 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 diets 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-centered "thou-shalt-not". But there is some schizophrenia in this, too: a reluctance to attack the tobacco producers, mainly 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 indispensible. A holistic approach is indispensable as basis for good health, and can only be approximated by an inter-sectorial approach at the central level, far removed from initiatives at the individual, family and community level.

Chapter 1

Health and Developments – An Image

1.1. The quality of death

The task of the medical profession has been regarded as that of preventing and curing disease, thereby saving and prolonging life. The focus has been life oriented; the method has been to seek and destroy the source of disease wherever it can be found, inside and outside the human body. There is no arguing with this approach as a guidelight, but it could gain in perspective through a more conscious focus also on death, by not only asking the question how we want to live, but also how we want to die. Since life and death are inextricably related, this would lead us closer to a total model of the ideal human life, or rather, in the plural, *models* of ideal human *lives* that might *serve* as a guide for a profession that in many senses is a troubled one.

Recently the quantity of life, the number of years lived, has grown in a truly impressive way; the achievements in improving the Quality of Life not only in the sense of absence of morbidity, but also in the form of the famous "sense of well-being," perhaps less so. This of course refers to the WHO definition of health, which is person-centered. However, there also exists a WHO society-centered approach, defining health as "the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life." Such formulations may be dangerous in as much as they see

human beings as instrumental to social and economic ends, and who is to define these ends? Is production above life and death?

And, if what is prolenged is the phase of senility, mentally speaking, and not a healthy body but a highly medicated, partly artificial body, somatically speaking, then how much is gained? Prolongation of old age also coincides with the breakdown of the extended family and even the nuclear family as a center for the care of the old. On top of this comes the increasing number of prolonged and painful deaths from malignant tumors. One may think that circumstances have conspired against old people, already tormented by chronic diseases. S0, what happened to the quality of death?

One should not claim to know how people want to die; this in itself should be a subject of serious research, and no doubt is heavily culture-dependent and dependent on one's position in the social structure. But three points might at least be suggested as hypotheses, emerging from dialogues with people in several countries on visions of good societies and good lives:

- *People do not want a long and painful death*, a burden not only to themselves, but also to family and friends, From this it does not follow that everybody wants a sudden death, through natural and social accidents, or simply to cross the borderline between life and death while in their sleep. People might also want a phase of consciousness of leaving this life, both in themselves and in their nearest, in order to fulfill social and religious obligations. To say good-bye, to leave in peace, to leave others in peace.

- *A sense of completion*; a sense that life has come to its end, that death is net only the biclogical next step, but also the logical next step. In other words, the acceptability of death depends on the acceptability of one's life cycle, for all kinds of somatic and mental reasons. Life may perhaps be seen as a curve, rising through childhood and adolescence, flattening out throughout maturity, going down through old age into senility. One ends as one starts, in the care of

one's nearest – the preceding generation to start with, the succeeding generation at the end. Ideally speaking, that is.

- *A death from no particular cause.* The moment one particular illness stands out as *the* cause of death, death looks so much more preventable, avoidable. It is like a car coming to an ends as long as only one part is malfunctioning one may try to replace it; if many parts start functioning badly at the same time the car may be given up – it is "worn out." The human body analogy would probably be to die from "old age," which may or may not be analyzable as a set of interrelated, simultaneous diseases – possibly as something more fundamental of which today we know very little (if we knew more we might hold the key to a second approach to the prolongation of life, perhaps not only quantitatively by knowing what aging is). To die from one cause only is so wasteful – the rest is still functioning!

Thus, it is assumed that there is a structure and a process to death and dying; but how culture-dependent it is would in itself be an important subject of study. Fer instance, in many African cultures what matters is not so much the extension of one's own life as that of the family, by securing a male offspring. A short life-span with a son is preferred to a longer life-span without a son. Evidently, this does not tally well with individual-oriented Western medical practices, except perhaps in its fight against infertility.

In belligerent cultures the distinction was made between the inferior death in bed and the superior death in the battleField, possibly not only because the latter was more heroic, but also because it was quicker, less painful. There might be cultures that would emphasize full consciousness in the process of dying, not simply withering away. But in any case, it is assumed, there will be some kind of ideal curve, consciously or less consciously expressed in the culture, and deviations from this ideal curve would be experienced as painful by the dying and the bereaved alike.

In secular culture this curve is anchored in birth and death; in religious cultures after-life, in some also beforeelife, are added to

the Great Curve of Being. The focus here is secular, but in a perspectives we are dealing, literally speaking, with matters of life and death.

1.2. The great morbidity/mortality transition

It is in this perspective that the current transition in the morbidity picture, and thereby also in the mortality picture should be seen. The transition is at least as dramatic as the accompanying demographic transition, although it may not yet have achieved its expression in terms of recognizable phases.

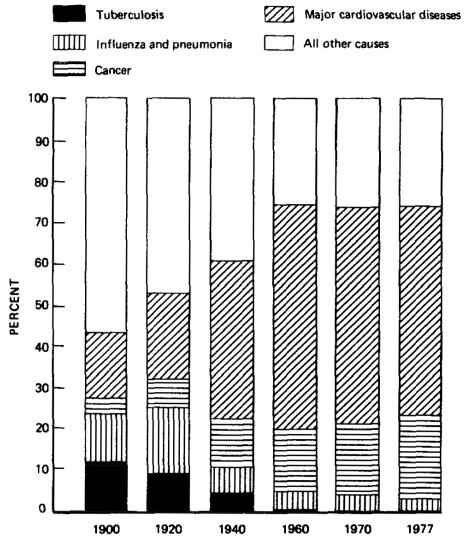

Figure 1.1: Deaths for selected causes as a percent of all deaths: United States, selected years, 1900-1977. Note: 1977 data are provisional; data for all other years are final, Source: National Center for Health Statistics, Division of Vital Statistics.

Figure 1.1 is taken from the excellent US publication by the Surgeon General on "Healthy People."[1] The transition is summarized in this publication as follows: "If mortality rates for certain diseases prevailed today as they did at the turn of the century, almost 400,000 Americans would lose their lives this year to tuberculosis, almost 300,000 to gastroenteritis, 80,000 to diphtheria and 55,000 to poliomyelitis. Instead the toll of all four diseases will be less than 10,000 lives." Instead 75% of all deaths in the U.S. now are due to degenerative diseases such as heart disease, stroke and cancer. Accidents rank as the most frequent cause of death up till the early forties.

The same tendency exists in Britain.[2] This sharply contrasts with the Third World picture, where hookworm, trachoma, schistosomiasis, filariasis and malaria predominate. When these diseases are conquered, the U.S. and British figures foreshadow the medical future of the Third World if no other health development path can be found.

One may in a rough way describe the development simply by saying that we have been undergoing, in the industrialized countries (and in the "developed" nuclei in the non-industrialized countries), a transition from *nature-generated diseases* to *society-generated diseases*, to the so-called civilization diseases. This is, however, an over-simplified model, attributing all diseases either to "nature" or "nurture." It might be fruitful, additionally, to add a third type, *person-generated diseasese*. Examples of this may be "aging," which can not be said to be either nature or society-generated, but may rather be seen as the result of processes belonging to the personal system sui generis. There may also be mental and spirtual processes, e.g. "senility" without any clear organic base, processes

[1] Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention, Washington, 1979.

[2] McGinty L. The British Way of Death. New Scientist, August 30, 1979 pp. 649-51 gives a very similar picture: of the deaths in the 50 million population of England and Wales in 1975 vascular diseases accounted for 284,000 (heart attack for 110,000 and stroke for 80,000); respiratory diseases for 75,000 (but for 10,000 more in bad influenza years); cancers for 99,000 (lung cancers for 33,000) and "other diseases" for 90,000.

of which we know little. By suggesting person-generated diseases, it is also implied that a person is not a body without a mind and a spirit – an empty billiard ball tossed around by society and nature. A person is also capable of producing his or her own diseases and, consequently, his or her own health through antibodies and will-power to generate health. On the other hand, that will-power influencing illness and health is in turn influenced by nature and society, in turn influenced by concyete persons. Our cuts and typologies, useful as they are, become somewhat arbitrary. Such a mortality transition is exemplified by the president of Singapore, who proudly announces that in his country more people are now dying from cardiovascular diseases than from malaria. He is thereby certainly giving expression to an indicator heavily correlated with what has been known as "development" until recently. But has it led to a higher quality of death? How do we, in fact, die? Are the three hypotheses satisfied when society wins over nature?

The health aspect of development has consisted in a systematic struggle to liberate us from nature-generated diseases, highly compatible with the general Western-criented developmental approach, which consists precisely in making us less nature-dependent, more masters of nature. Nature, from the point of view of health, is seen as neither enemy nor friend, but as ambivalent and dangerous in at least two regards: there are the hazards of nature (earthquakes, tsunamis, blizzads, heat waves, floods and drought, etc.) and there are communicable diseases. To what extent these are really nature-generated and not also to some extent calamities that man has brought upon himself through his inconsiderate ways of relating to nature we perhaps da not fully know today. Correspondingly, society-generated diseases obviously operate through nature to kill natures us. It seems relatively clear that the major causes of death in industrialized societies today, cardiovascular diseases (around 50%), malignant tumors (25%), have an etiology that no doubt is related to a family of causes. But in that family two factors seem to stand outs "pollution" and "stress." The pollution one is talking about in this connection seems at least to a large extent to be made up of inorganic and of synthetic organic compounds,

such as PVC (not discounting the importance of lead, mercury, sulphur dioxide, etc.) perhaps giving some reason to rethink the arguments made by those who attacked Wöhler when he made his famous synthesis of uric acid in 1828. This was a way of tampering with the matters of life and death that belonged to God. And the "stress" that comes to the foreground in this connection definitely has to do with the way of life in advanced industrial societies, however one wants to analyze it.[3]

Pollution and stress are convenient labels for contact points between the human body/mind/spirit and the social formation characterized as developed/advanced/industrialized/high income. Analysis will of course not stop at that point but go deeper into the nature of that social formation, for instance pointing out how the structure tends to be vertical: exploitative, conditioning, segmenting, fragmenting, marginalizing. This is in fact the typical structure of modern societies, and of world society. When so many people nevertheless survive, it is certainly not only due to medical services, but also because the society still has a reserve structure, a circle of family and friends serving as a protective cocoon around the individual.[4] This structure is not necessarily horizontal, but it is at least smaller and more intimate, more integrative. If the big vertical structure is referred to as the "alpha structure" and the other one as the "beta structure," then the alpha structure is used for production and the beta for reproduction; not only in

[3]As it is put in the Encyclopaedia Britannica (1980, 2:993): "the vitalists maintained that natural products formed by living organisms could never be synthesized by ordinary chemical means. The first laboratory synthesis of an organic compound, urea, by Fredrick Wöhler in 1828, was a blow to the vitalists but mot a decisive one. They retreated to new lines of defense, arguing that urea was only an excretory substance – a product of breakdown and not of synthesis." It may not be by reopening the argument of the vitalists that progress can be made, but it is a telling indictment of our life sciences that they have not been able to develop a good theory of which compounds are (and by implications which ones are net) detrimental to human beings.

[4]Japan seems to be relatively unique among industrialized countries in combining, so far, this very hierarchical structure with a "protective cocoon," not so much in the family as among age-mates and colleagues within an organization, a company, a ministry, whatever. See Chie Nattame, Japanese Society.

the sense of giving birth to new generations who can be fed into the alpha production structure, but also in the sense of putting together the fragmented and segmented pieces so that they can reappear next morning, at least apparently in a relatively good shape. It is when this beta structure also starts crumbling, at the same time as the alpha structure penetrates more and more deeply into all spheres of human life (economists might use the expression "formal sector" versus "informal sector" for the terms alpha vs. beta), that it really starts becoming dangerous, perhaps first showing up in the field of mental disorder and cardiovascular diseases if we assume that they are more stress-dependent.[5]

But pollution, and not only in the air and in the water, but also of the diet, through all the processing that makes food less and less natural, more and more "chemical" and seemingly more and more dangerous to health, probably has more of a "bite" if the protective devices of the body have been reduced through "stress" – and vice versa.[6] In regard to diets, two arguments can be made: processing of food destroys certain natural ingredients, thus depriving the diets of the chance to prevent and cure malfunctions, and chemical additives may have an additional toxic effect. These two factors work independently of each other in the sense that natural fibres or "ingredients" in general may be intact, yet there are additives – and vice versa. Needless to say, body, mind and spirits; cardiovascular diseases, tumors and mental disorder; processing, pollution and stress and the underlying social structures and patterns of production and consumption all come together in one great and highly interrelated nexus with causes and effects running in all directions at the same time. No head, no tail.

The labels we have introduced are for convenience only, and probably often inconveniently convenient in making us blind to more holistic approaches. One may wonder when there will be be some

[5]See Johan Galtung in Eleanora Masini, ed., *Visiones de sociedades deseables*, CESTEEM, Mexico, 1979, "Sobre Alpha v Beta y Sus Muchas Combinaciones."

[6]See M. Ro. & A. K. Biswas, *Food, Climate and Man*, Wiley, New York, 1979 and T. L. Cleave, *The Saccharine Disease*, Keats Publishing Co., 1975.

real breakthroughs in the understanding of the interplay between mental/spiritual and somatic factors – or maybe this categorization is one of the reasons why we seem to be so slow at coming to grips with these phenomena. Are there other categories?

Having said this it is also part of the picture to criticize the category "society-generated diseases" from the other side and look at the nature-generated aspects of these diseases. If one assumes that nature and society stand in a dialectic and not a dichotomous classificatory relationship to each other, then this way of thinking comes naturally. As at the corresponding point above, we shall assume that we only stand outside the building of this type of integrated knowledge, mevely peeping in through seme chinks in the door, or the side of the windows. This will be taken up in chapter 4,

1.3. Some consequences for the medical profession

The general perspective presented has a number of consequences which we shall now attempt to spell out.

For one thing, the medical profession in general and the health establishment in particular should not be surprised if the population does not show such clear signs of gratitude at the prolongation of life achieved as one might have expected. There are at least two reasons for this. First, the society-generated diseases may strike later in life, although the trends for cancer in younger people, including adolescents, even children in recent years, seem disturbing, possibly because some of the cancers have shorter gestation periods.[7] But that does not mean that they constitute acceptable deaths, and, even less, acceptable lives. They in no sense tally

[7]In Norway, for instance, leukemia is now the second cause of death among children (after accidents) according to the campaign fall 1980 to collect money for the fight against cancer (in one of the world's richest countries, capable of more than 3% increases in military expenditure, the only NATO country to follow the US in this, ene should believe that this would not be left to personal charity – moreover the fight against cancer is probably more a question of change of lifestyle than availe ability of money). According to the Surgeon

well with the conditions stipulated above. People do not die like Abraham from old age, old and satisfied from "his dayse" Death is long and painful to body and mind, and unacceptable to the spirit, seen as premature, with most or much of the body intact. The society-qenerated accident, for instance while deriving leaves the bereaved with the problem of meanings so meaningless, so unacceptable. Or like the German philosopher Immanuel Kant, whose last words when he expired in Königsberg, 12 February 1804, were "Es ist gut" (it is good).

But second, and perhaps more serious: the medical profession is increasingly seen not only as incapable of identifying the cause of society-generated diseases, but also as themselves being more a part of the problem than a part of the solution – to use an old American expression. For one thing, the fight, the real struggle, against pollutants, against excessive conditions of stress and against barbarous practices in hospitals in general and mental hospitals in particular, often seems to have been fought by patients and the public at large rather than by members of the medical profession in general and the health establishment in particular. On the contrary, it has often looked as if a sluggish health establishment has to be stirred into action, often by dramatic forms of confrontation, and is not easily moved by its own inner debate and dynamism.

An example may be chosen from Norway, where recently extremely inhuman conditions were brought to public knowledge when a conscientious objector, a young physician performing his alternative service, helped one of the patients escape so that the story could be made public. It is important to add that the doctor was convicted and the medical authorities were not, but the hospital system was shaken to its very foundations. It may, in fact seem as if the medical profession is still trying to see diseases, predominantly society-generated, in the old terms, as being predominantly nature-generated, by keeping alive the hunt for a "virus" in order to find something that one can ultimately seek and destroy, even eradicate (except for some specimens that will have to be kept alive for

General's report (see footnote 1 above) the same holds for the US: accidents no. 1, then cancer, then birth defects (p. 35).

future generations to study and compare with new types of disease vectors). And then, to top it all: the way the whole system of preventive and curative medicine is organized is in itself a part of society's alpha structure, as vertical, conditioning, segmenting, fragmenting and marginalizing as anything else, thereby making the medical prefession a part of the preblem rather than the solution. In the field of the mental hospital as an approach to mental disorder this theme has received its now classical formulation in the movie "One Flew over the Cuckoo's Next."

One factor that enters into this complex is the way in which the medical profession is trained. The standard formula calls for a solid basis in physics and chemistry at the very beginning of the study, and the extensive training in anatomy and physiology and pathology certainly opens the way to all the life sciences. Thus, medical man is essentially a natural scientist, professionally trained to see disease, its prevention and its cure in natural science termse It belongs to his *déformation professionnelle* that he usually receives very little training in the social sciences, and the net balance of this would tend to make him more prone to see disease as natureegenerated than society-generated. People who argue, and often over-argue, the society-generated perspective will be likely to draw a blank when confronted with the medical profession, They will simply refuse to answer or even to listen; in many cases because they refuse to understand. The failure of communication in this regard will be more and more serious as our social formations continue on the road they have been travelling so far, making human beings less and less nature dependent and more and more society-dependent. This will lead to cleavages not only between the medical profession and the population at large, but also within the medical profession itself as the younger generation of physicians will increasingly pick up the loose social ends and try to weave them together in a more holistic picture of the various health-disease-health-disease careers offered to the population (including to physicians themselves);

It is unpleasant to see oneself the way others may tend to see ones as a part of the problem rather than as part of the solution

one is supposed to bring about, a factor underlying the deeply emotional over- and undertones debates in this field tend to have, and increasingly so. There is little to indicate that it will become more pleasant in the near future, a factor that may make the medical profession less popular and prestigious, more beleaguered and defensive.

From the dictatorship of the profession to dialogue with the population

There is another aspect to this which has to do with the way in which the medical profession has gone about preventive medicine as long as diseases were seen as nature-generated. About earthquakes and tsunamis, floods and droughts there was not so much to be done – although it might perhaps be added that the medical profession, belonging to the upper strata of any society, would have a tendency to live far away from the danger zones themselves. But about infectious diseases there was something to be done: sanitation, hygienic practices to slow down or stop contagion, inoculation, etc. to strengthen the defences of the human body. Much of this could be done by individuals themselves when properly motivated or ordered: they could wash their bodies in general and hands in particular, be responsive to calls for X-rays and inoculation, clean up sewers and swamps. Information about this, both in the sense of knowledge and in the sense of moralizing commandments, could be disseminated from above and internalized below, for instance in school curricula. People above had the knowledge, people below had the need for knowledge – there was a perfect fit between the knowledge structure and the social structure in general. The eleventh commandment, "Thou shalt wash thy hands" would with no difficulty fit into a literate, religiously inclined community (actually, Hindus, Buddhists and Muslims have probably adhered much more to this commandment than Christians).

But not so with society-generated diseases. For one thing, the medical profession itself is ambivalent, uncertain, and partly ignorant when it comes to etiological aspects. There is no obvious

knowledge gap between them and the population at large. They evidently know much more about the cure, but not about the prevention. As a consequence the setting should be almost ideal for a triangular dialogue physician/patient/people at large, not giving Full weight to the opinions of the former and nothing at all to the other two as the situation has almost been under the "dictatorship of the professionals." A dialogue is communication between equals. Everybody makes an input and gets out of the dialoque stimulation, enrichment, added insight, which then may or may not be fused into collectively shared insight. A dialogue should not of course be confused with the caricature of a dialeque written by Plato and put into the mouth of Socrates. This is clearly seen if instead of reading all the wisdom that comes out of the mouth of Socrates one reads what is put into the mouth of the poor partner to the "dialogue": "Yes, Socrates, you are right, Socrates, now I see it fully, Socrates, what a fool I have been." A "dialogue" of that kind is only a clever, even tricky, way of carrying out education in the old way, as brainfilling from above. Yet this has been the professional model. There is, however, a problem in Finding a proper setting for this type of dialogue. We know that it takes place in private between one physician and one patient, but it ought to be more public. When patients organize themselves, physicians tend to become very defensive – for good reasons – as the organization is very often directed against them. Mental patients in Denmark, for example, organized open air festivals with nothing positive to be said about the psychiatricians.

One might now argue that there is a contradiction in the two points just made: that medical man knows too little about society, and that there should be a dialegue on these issues. What will happen when medical man starts knowing more about society – will he not make use of that knowledge and convert it into a broader basis for the dictatorship of the professional? This may be true, but in that case he will also have to compete with quite a lot of other specialists in social matters, particularly among them those social specialists (the social scientists and people in general) who have taken the trouble of trying to learn something about the more

conventional health matters. In a sense this should be easy if anyone in the population were to make better use of the fact that *all* of us sooner or later will come into contact with the health establishment, by being socially defined as "patients."[8]

More willingness to teach on the part of the physician, and more willingness to learn on the part of the patient, making use of contact opportunities, would make for a much more informed public. But sometimes the public gets the impression that medical man prefers to keep the knowledge to himself so as to retain monopolistic control over the execution of his profession. However this may be, it may be true that we are right now entering a phase where openness is not only necessary but even possible before a retooled medical professionalism gains the upper hand again. This phase should be made use of as effectively as possible, making for a multiplicity of dialogues about health problems, enriching all parties concerned.

The green wave of health self-reliance

But the public is not likely to be satisfied with this. On the contrary, large segments of the public will probably draw the conclusion that the best they can do is to exercise their own preventive and curative medicine. A major portion of the alternative ways of life movement can be seen in this light. They can be seen as acts of self-defence, as efforts to build structures less dominated by "pollution" and "stress," choosing place of residence and occupation in accordance with the geographical and social pathology maps of the country. All of this is part of the green wave of politics and developments the fight against pollution, the fight for the right to live in a more natural environment and enjoy more natural foodstuff; the fight against alienating structures, in favor of more integrative, more communal styles of living. The alternative ways of life movements in general, it seems, have picked up exactly the key points, and maybe long before it really dawned upon the medical profession as

[8]The best definition of this is probably still in the famous chapter 10 of *The Social System* by Talcott Parsons (Glencoe, The Free Press, 1951).

such that these could be essential in understanding the "society-generated diseases." This *green* (signifying the local level) pole of development is clearly posited against the *red* (the ministries) and the *blue* (the cerporations) poles of development in the health fields public health in general and the ministries of health in particular; the corporations in the health Field, pharmaceuticals, the manufacturers of hospital equipment, surgical instruments and so on even more in particular.[9]

This is important because the struggle inside the red/blue/ green triangle is a general theme in industrialized societies, and can be found in all fields of production, in education, arts and sciences, communication and transportation and so one Red, blue and greens a public, formal sector way of doing things, a private, formal sector way of doing things, and an informal sector way of doing things[10] – the latter under the "small is beautiful" banner. This trend only partly originated in the field of health. Actually, it may even be meaningless to ask the question where it originated, since everybody will tend to say that it started in the field of his/her particular competence and interest. It is more correct to see it as a general wave expressing a certain logic of how to construct social life, a certain way of life, in general. As such it also received its expression in the sector of health, and among its many expressions medical man is most likely to pick up the

[9]This scheme of colors is commonly used in the debate about development in Nordic countries. They should be seen as denotative of *actors* (red for the ministries, blue for the corporations, green for the more local level) rather than of *ideologies*. Obviously there is a sense in which one can be "red" ideologically without necessarily being "red" organizationally, believing in ministries.

[10]By "informal" economy is meant three different things:

- production for own consumption (kitchen, garden, handicraft, energy)
- production for exchange, but on a barter basis
- production for exchange against money, but in local economic cycles

The green position is not necessarily that this should be the only economic system found in a society but that it should account for much more of the economy than in the present red-blue dominated formations (in the field of health the red-blue would be the Ministry of healthe-health industry complex). It may be argued that informally it already does – but the informal economy should be protected against colonization from the formal sector and be given the chance to expand.

environmental aspect. Why? Partly because his training in natural sciences makes it fit more easily into his areas of competence. And partly because the type of action often envisaged, environmental control by strengthening the public sector control over the private sector, is entirely compatible with the setting in which public health itself is operating. This is also the sector where bhe more left wing (red, pink) meaning change-oriented physicians are found. In the most important field so far, which is that of smoking, it is even compatible with the old pattern of knowledge dissemination, combined with moralism, leading to the twelfth commandment, "Thou shalt not smoke".[11] Individual acts of volition, in this case restraint, even abstinence, can be seen as health productive, although the roots are more social, calling for the restraint, even abolition, of the entire tobacco industry.

The green wave would certainly not be satisfied with moralism. The green wave wants to hit at the aspects of our society that generate

[11]See the excellent issue of *World Health* prepared for the world health day 7 April 1980 with the editorial by Halfdan Mahler, "Smoking or Health, The choice is yours!". However, it is hard to find in the issue a sustained attack on the tobacco industry in general and its advertising in particular. But it is very much in line with the Surgeon General's (*Report*, p. 10) "simple measures to enhance the prospects of good health":

- elimination of cigarette smoking
- reduction of alcohol misuse
- moderate dietary changes to reduce intake of excess calories (2018: Recent research has demonstrated that reduction in caloric intake does not work and that a high-fat diet does not lead to obesity; the culprit in obesity is manily sugar and other refined carbohydrates), fat, salt (2018: Our position on salt has changed with new studies; the main culprits causing high blood pressure are carbohydrates and a too high intake of omega-6 fatty acids relative to omega-3 fatty acids) and sugar
- periodic screening for high blood pressure and certain cancers
- adherence to speed laws and use of seat belts

"Use of antihypertensive medication" is also mentioned as a habit to be changed, but "cigarette smoking is the single most important preventable cause of death" (p. 7). And from Britain: "Smoking kills perhaps 100,000" (p. 649). All of this, with the exception of the "periodic screening" that perhaps can best be organized on a centralized basis, is very much within the frame of reference of the green movement. Moreover, "half of US mortality in 1976 was due to unhealthy behavior or life-style" (*Report*, p. 9).

such phenomena, going far beyond the tobacco manufacturers. But that would be only one example among many: The green wave in general would like to build down the "big is ugly" aspects of society, decentrelizing the public sector by giving more power to local administrative units, decommercializing the private sector through partial demonetization of the economy, giving much more weight to the informal sector, and detechnification and deprofessionalization of health and various fields of social life in general give more power to people. The medical profession, as it has shaped up in general, and the health establishment in particular, are not in for a very pleasant future if and when the green wave becomes more predominant. Some members of the profession will see this ahead of the others and join the green wave and not only because of ideological sympathy, maybe also for their own mental health in the years to come. A more positive reaction than the high suicide rates encountered in a profession knowing how diseases end, knowing how to put an end to life, and very frequently confronted with their own inadequacy.

1.4. On the social future of industrialized countries: some processes

The question then is what shape these coming years are going to take in the industrialized countries. Of that we know little, but only the intellectual coward would refrain from trying to make use of the little knowledge we have in making some projections. The methodology behind making projections would certainly not be founded on time series with hard data. Rather, the methodological foundation would be configurations of rather soft data, an indication here and an indicator there, which when interpreted holistically seem to point in certain directions rather than others. One may be reminded of the difference between Western and Chinese approaches to earthquake prediction; a Western, hard focus on a few, measurable variables versus a Chinese, wide range of soft data, strange behavior of animals, noises etc., where patterns are analyzed. The soft approach, incidentally, is more an expression of

"green epistemology" than of its red and blue counterparts. And that is actually at the root of some of the sociopolitical issues in today's industrialized societies: many people, particularly young – and the young in spirit – sense things intuitively where directors and managers in the red and blue poles of society, the ministries and the corporations, feel unmotivated or incapable of moving into action unless they have the hard data time series to underpin their decisions (and to defend themselves against criticism if proven wrongs "soft", "holistic" indicators being af little help).

The green wave is based on a multitude of small, local level groups that do not have to move all in the same way at the same time. If they make a mistake based on their intuition, the consequences are theirs, mainly to be suffered locally. If the ministry or the corporation makes mistakes, they may affect the whole population or groups distributed all over the world as the corporations have come to realize when the consequences of insufficiently tested, prematurely and brutally marketed drugs become evident. Incidentally, again it looks as if it is the victims, ordinary people often helped by some marginally placed professionals, no doubt many of them with a class background that increases their sensitivity, who have been fighting this uphill battle against extremely powerful corporations in many countries rather than medical professionals as such and the health establishment in particular. Consequently, ministries and corporations will feel this need for a hard data basis. But they may also be professionally detrained in knowing how hard data and soft data can be combined into an even better basis for action. And they may use the call for hard data as a pretext to postpone decision and action, because it takes time before a deteriorating situation produces sufficiently hard data.

The most likely trends as far as one can see right now for the European countries, would be different for three regions for the Northwest, the Southwest and the East – meaning the countries. In the less rich Southwest (in which we would also Classify Yugoslavia, Greece, and Turkey) the delight in trying to catch up with the industrially more developed Northwest (particularly in the Eurcpean NIC's, Newly Industrializing Countries) seems to be

at such a high level that it will nurture the red and blue poles of development, but not the green.[12]

In the East, the socialist ("state capitalist") countries – some of them much more industrialized than the Mediterranean countries, including the North African countries – there might be an objective basis for much more criticism of the red/blue combination known as state capitalism (and not that different from what is found in social democratically governed countries in Northwest Europe, incidentally). But the lack of freedom of expression, if not in words at least certainly in action, will make the green wave inward-looking, skimpy, insignificant – a source of social renewal left unused, unchallenged to the detriment of all.

Western Europe and North America

Hence, it is in the Northwestern corner of the industrialized region of the world, North America and Northwest Europe, that the contradiction between the red/blue pole of development on the one hand and the green wave on the other will be most pronounced. The best prediction right now will probably be that all poles will continue to grow for some time, but that the corporate sector will suffer some decline as unemployment becomes more rampant, partly due to more automated production (the micro-processors), partly due to decreasing markets as the Southeastern corner of the world (the Japan-China-Southeast Asia triangle) gains more and more influence in the international economy. The red pole will have to try to clean up when corporations enter into bankruptcy,

[12] An urge for a more "green" development in a society will hardly come before a population has been through quite a lot of the maldevelopment caused by excessive reliance on the red and blue poles of development. And this maldevelopment finds many of its expressions in the morbidity/mortality configurations. Above much of the focus has been on mortality, forgetting the morbidity that does not kill, such as the mental illnesses. Thus, according to the Surgeon General's Report "– at any given time, up to 25 percent of the population is estimated to be suffering from mild to moderate depression, anxiety or other emotional disorder" (p. 68). But this will come later to these countries.

putting severe strains on already strained public budgets in terms of unemployment insurance, guarantees and loans to threatened industries and to new industries in outlying districts, etc. As a consequence, the green wave is likely to progress further, partly capitalizing on the failure of the other two, partly generating its own momentum. But it will also be fiercely counteracted by a possible *brown*, more fascist, wave clinging to the status quo. Such a *brown* reaction in the medical sector would imply more medication, stricter disciplinary measures in the fields of public and private hygiene, heavily centralized control over the medical sector, stricter psychiatric hospitals, etc. Birth control and death control (euthanasia) may also be seen in this perspective when imposed from the outside rather than as an act of volition decided on by the person whose life is coming to an end or the spouse or relatives. In either case, however, euthanasia is the most telling sign of the low quality of death in these societies.

If one should derive some health implications from this type of projection, it might be as follows: the projection would be relatively optimistic for the Northwestern part of the regions partly because the population would protect itself increasingly against some of the sources of the "society-generated diseases," and partly because so large portions of the population would be engaged in productive conflict that in itself seems to produce, and certainly not reduce, mental health. Participation in conflict situations may be seen as conducive to strong feelings of identity, and such feelings may structure the mental space, ease nagging doubts and ambioudition.[13] It may also be that these countries, because of their traditional freedom of expression, are in the best position to organize fruitful dialoques.

The perspectives for the other two parts of the region would be less optimistic: the conventional developmental process would continue, increasing the tolls on the population in terms of partly painful

[13]Participation in conflict may be seen as conducive to strong feelings of identity, and such feelings may structure the mental space, erase nagging doubts and ambiguities, etc. See Lewis Coser, *The Social Functions of Conflict*, Glencoe, Free Press, 1956.

– increasingly seen as meaningless – deaths at the same time as the medical profession would become more deeply entranched, inereasingly hostile to alternative approaches.

Eastern and Southern Europe

Given the flow of communication within the region, and the general tendency for the East to imitate the West, and for the South to imitate the North after the point of gravity became located in the European Northwest (when the industrial revolution converted mercantile capitalism into industrial capitalism), there might be a tendency towards a "green-from-above-movement" in the South and the East.

The social logic would be something like this: the health establishments in the Northwest will learn from the green wave, they will coopt some of the best ideas, and occasionally some of the best people, and try to build them into red and blue structures (more decentralized public health, more emphasis on the primary physician and less on the secondary physician, commercialization of herbs and all kinds of "natural" medicine as the pharmaceuticals pick up the tricks). The health establishment will do this partly because they start believing it, partly as a survival strategy pre-empting further green advances, and partly in order to control such approaches. In the longer run this may deprive the green health wave of some of its momentum: But the net consequence may also be a greening of the blue and a greening of the red. The ideas gain a foothold inside more established sectors.

Health establishments in the East and in the South will be less interested in this and more interested in what their opposite numbers in the Northwest do, possibly copying without having any popular or grassroot basis for such actions, no inner dialectic changing the structure of the health sector. Consequently, the results will probably not be too impressive but, like so many other things in societies with an authoritarian streak, become a part of the pressure from above. Thus, there is a lot of difference between an

anti-smoking campaign that has come out of popular movements, picked up, strengthened and developed much further by the health establishment and then given a chance to rebound on the public, and an anti-smoking campaign launched from above on a largely unmotivated public. Thus, that campaign is today found in many countries, but the changes in behavior seem to be in developed countries and particularly among males.

The Third World

It goes without saying that all of this will be watched carfully by countries in the Third World. But in most of these countries the problems highest on the health services agenda will be:

- *institution-building* in the medical sector in all countries
- *equalizing access* to this formal health sector, in some countries, particularly socialist, buddhist and muslim.

Of course, these are concerns that will continue also to be important in the high income countries. There are still regional differences among and within countries, between classes and genders.

Moreover, is it obvious that we shall tolerate age-specific morbidity/mortality differentials when we do not tolerate gender-specific differentials, and, even less so, class-specific differentials? Egalitarian ideology will stimulate the "equalizing access" approach, some countries are more concerned with this (socialist and social democratic regimes particularly); others will at least have to pay lip-service to it. Will the old accept, forever, that death is for them alone and life for all the others? Or, will they try to push for lower correlations? They will start with regional and sex differences, then attach class differentials, and one day they may even ask why there should be such a difference among age groupse This may indeed seem far-fetched: Of course old people (should!) run a higher risk of death than the young. One may, however, point to the fact that in earlier times the risk of death was more evenly distributed in the population. With the almost incredible reduction of infant mortality and diseases suffered by the young and

middle-aged, the risk of dying is much more concentrated among the old – except, though, for the "great equalizer," i.e. a nuclear war – and consequently marginalizing them further.

However that may be, the entire approach will lead to rising LDC medical establishments, since only they can operate on a country-wide scale (and even inter-governmentally). They will tend to scoff at self-care, mutual care, community participation and re-structuring of the societies in general, and the medical sector in particular, as the cheap way out, a way of depriving people of harder (capital- and research-intensive) health resources and the medical establishment of prestige, power and privilege. And they will be particularly hostile to folk medicine as symbolic of the underdeveloped past. Such health resources will probably have to be reintroduced from above, from MDC medical establishments that have been mining LDCs for health resourcese In short, a projection on the field of medical services of the general hard vs. soft technology problematique. It is characteristic of this sphere that elites in the Third World countries will tend to import hard technology to make their country "modern" and then try to monopolize the use of such technology in their country. As hard technology is related to civilization diseases, particularly cancer and cardiovascular diseases, this monopoly makes sense to the elites, since they are most likely to suffer from such diseases, partly because they have benefited disproportionately from health-improvement schemes in their fight against nature-generated diseases, and partly because they are most exposed to society-generated diseases of the new types.

But it is not obvious that the bridge-building function of more recourse to traditional medicine in the less industrialized countries will work to even out the contradictions between these seemingly divergent trends. Just to mention one important aspect: the attitude to death. Western individualism and idea of progress have combined into the intense conviction that important things will and must happen in *my* lifetime, if not with me as the cause, at least with me witnessing (and enjoying, since it will have to be progress) the effects. Imagine that this attitude moving fully into

the non-industrial countries, with the pressure on the society to deliver longer lives, and quantity of health, going up. Western medicine will be seen as the cause above other reasons since it works so quickly.[14] Imagine that at the same time this attitude becomes less prominent in the industrialized countries, that death is seen less as an enemy never to be talked about and more as a transition phase in a broader concept of life. In that case there may be more pressure on the society to deliver less quantity and more quality of life – or both if there is not a trade-off to be taken into consideration here. The point being made here is actually only ones so much depends on the basic orientation in the societies in question, the *cosmologies*. And about them it is difficult to make predictions beyond what has just been saids that we are probably in for some kind of cosmology *exchange*[15] which will leave its deep imprint also on the relation between society and health – and not only in the industrialized countries.

1.5. The quality of life

The quality of life has the quality of death as an extremely important component, and it is only by putting the burden of death on the old alone that we try to escape from this conclusion. Somehow this fact should influence the way medical policies are formulated and give to that profession a broader normative basis than extended quantity of life alone. And it should also be an important consideration in how we construct our societies – do we try to improve quality of life at the expense of the old and their quality of death, or can we instead try to aim for the better quality of the total life-cycle?

[14] A personal experiences being exposed to a tough viral disease in Malaysia Galtung had the option between Chinese traditional herbs and Western chemistry. The Chinese herbs might have worked after some time, but my Western impatience made him opt for the chemistry of the West. The fever disappeared, probably with side effects – but the process was a quick one!

[15] See Galtung, Heiestad, Rudeng, "On the Last 2500 Years of Western Civilization, and Some Remarks on the Coming 500", in *The New Cambridge Modern History*, 1979, Companion Volume, ch. 12.

This chapter started out with some reflections on the quality of death leading, implicitly, to a query: could it be that there has not been that much medical progress this last century? We live longer. But as to how we die, maybe we have gone from the frying-pan into the fire? Looking at the three criteria hypothesized for a preferable death – not long and painful, compatible with a sense of completion, from no particular cause – comparing this with the incidence of cancer, the gestation period for cancer, the rates of growth of morbidity and mortality from cancers: are we really making progress? The blame for this is not to be put solely on the medical profession, exposed to considerable criticism already, but applies to the pattern of social development as a whole.

If we project a little into the future, it does not look much better, not only because of the rates of growth for the society-generated diseases but because of the increasing costs in curing them, to be borne by economies under considerable pressure. If the middle-aged continue to run the society, is it to be expected that they will set aside sufficient funds to alleviate the pains of the old and prolong their lives further when work is already structured in such a way that they no longer can make a contribution because they are (pre)pensioned off, and therefore increasingly will be seen as "burdens" on society? Is it not more likely that the middle-aged will try to channel medical resources in the direction of themselves and their children? And what will all of this do to the social relations among the age groups in society, already highly problematic as they are? In this connection it should also be borne in mind how much weaker old people are than, for instance university-educated middle-aged women who have been the leaders of the feminist movement, and even they have a difficult struggle against the middle-aged male establishment.

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in determining how we should construct our societies – do we try to improve quality of life at the expense of the old and their quality of death, or can we instead try to aim for a better quality of the total life-cycle?[16]

[16] As an example see the excellent articles in *Der Spiegel*, Nos. 3435/1980, "Begrabene Illusionen".

Chapter 2

Health and Development: The Case of Norway

2.1. The changing picture of health in Norway: a summary

If we should characterize one century of change, 1880-1980, in the picture of health in Norway, three items seem to stand out:[1] *longevity increase*, the *morality transition*, and the *morbidity prevalence*. More precisely:

- Longevity increase:
  - 1871-80 E_0 for males was 48.33, for females 51.30
  - 1977-78 E_0 for males was 72.31, for females 78.65
- Mortality transition:
  - In 1900 the main causes of death were TBC 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; 0.65 chronic diseases per person in the country

That people live much longer, have more *quantity of life*, is undisputed, among other reasons also because of a system that handles very well many acute diseases. That the *quality of life* in terms of health, meaning low morbidity, has improved is questionable – it

[1] This summary is based on data collected by Dag Poleszynski.

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 – a 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. On the other hand, the *quantity of death* has improved in the sense that People are surrounded by fewer deaths. It is a success story; but there are shadows, even deep.

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 in age, gender, class and geographical background.

Longevity. The gain in total life expectancy is impressive, but the gain favors 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 1899-1902 to 0.2 in 1978. The higher classes are favored, but not much: urban people are favored over rural probably due to somewhat better services, but not much; and women are favored in the whole process of prolonging life and much: in all age categories they have been gaining more than men, 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 still not understood. Thus, women who want to live with one partner obviously should choose a man six years younger. But if she wants two partners a man six years older might do.

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 pollution; processed foods, smoking; 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 cardiovascular diseases from 6.6% 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 (leukemia) now being cause of death no. 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 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 1913 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, tuberculosis. A study by Fjestland 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 and West. Clearly, the class differentials were maintained throughout this period of

[2]Fjestland and Mork, "En regional undersøkelse av dødeligheten i Oslo 1890-1939; Annen del, Tuberkulose, Andre infeksjonssykdommer og Åndedrettsorganenes sykdommer," in *Festskrift til helsedirektor Karl Evang på 60-årsdagen*, Oslo, pp. 111-120.

half a century that also included liberal and labor 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,[4] 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 cardiovascular diseases and for cancer have clear class connotations: (see next page for Table 2.1). This approach, by occupations, is important and will be made use of below.[5] The ratios between most and least exposed occupation is 2:1 for cardiovascular/heart diseases and almost 3:1 for cancer.

[3]Holme, et al., "Four-year mortality by some socioeconomic indicators: the Oslo study," Journal of Epidemiology and Community Health, 19980, pp. 48-52. The Norwegian version appeared in *Tidsskrift for Den norske Lægeforening* no. 27, 1977, pp. 1380-1383.

[4]Note 2018: Cholesterol has conveniently been targeted by the pharmaceutical companies as a causative factor because the level may be lowered by drugs, not because it causes heart disease.

[5]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.

Table 2.1: Disease and Occupation

	Cardiovascular 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, agric., forestry, Technical and scientific work	Pedagogical work, Management, agriculture and forestry

Another aspect of the mortality transition worth mentioning 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 roles 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, it is not strange, 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[6] 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. Another reason may be more consciousness of the state of their body – and ability to verbalize that consciousness.

There is no clear, simple picture with regard to occupation or class reported in these studies.[7] In a sense this is not so strange: the phenomenon is so prevalent that it starts filling 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 even some indication, comparing studies from 1968 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 labeling): the mental diseases or disorders. Of course, they also fit in with

[6] Jon Ivar Elstad, Kroniske Lidelser og Sosial Klasse, Institutt 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 is used).

[7] 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.

the mortality transition: suicides (usually seen as coming out of existential problems, a loss of orientation) increased from 111 to 172 for men, and from 30 to 71 for women, per million from 1876-85 to 1979. And there also seems to be a synergistic link between mental disorder and cardiovascular diseases.[8]

In the period 1950 to 1975 the mental hospital admissions per one hundred thousand of the population increased from 48 to 83, and the number of readmissions from 86 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." 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.[9]

This is, more or less, the picture of health in Norway today with an image of the changes from the typical pattern of an underdeveloped, poor, non-industrial country to the typical pattern of an overdeveloped, rich, industrialized country. And we say "overde-

[8]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 Ødegård, "Mortality in Psychiatric Hospitals in Norway 1950-74," Acta Psychiat. Scand. (1979) 59, pp. 431-447.

[9]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.

veloped" 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, with human-made changes of the human condition having 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.[10]

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 cardiovascular 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%,[11] 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.[12]

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

[11] For the growth rate for cancer, see footnotes 2-3 above.

[12] 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

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.[13] 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

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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 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.

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

there something in stock for us? Two models or ways of thinking come to mind here:[14]

- *Society-centered models*: Social change continues and new patterns of disease evolve as societies evolve; societies carry them.
- *Person-centered models*: Human beings themselves carry certain genetic propensities for disintegration, and one type of diseases 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 – 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, so we got the diseases of that type of society. What kind of diseases will post-industrial society, or whatever we call it, be a carrier of? Here it should be pointed out that cancer and cardiovascular diseases were not unknown 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. Another, obvious, guess, would be an accumulation of chronic diseases. Still another would be an increase in degenerative disease. And then there are always the new diseases – – – .

This picture, unpleasant to contemplate like the mechanistic extrapolation above, presupposes a relatively linear, also mechanistic, extrapolation from the industrial to the post-industrial, in the vein of the type of future studies often done in the first world in

[14]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.

the 1960s. But one could 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 prevalence of pollution and stress, more prevalence of enlightened self-care and care for others. 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 ever described:[15]

- *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*: dying "at the end of the road," which probably in general means 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.
- *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. In short, quality of life.

Clearly, formulated this way, Norway is far away from this ideal, in spite of the tremendous gains that have been made.

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; but 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.d. by an infection) the other is not, meaning that the other way of dying, or propensity to die, is masked by the former. One

[15] Ibid., with an effort to discuss "quality of death" on pp. 13-14.

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.*

2.2. The changing picture of health in Norway: an exploration

How did all these changes come about? Was there a *strategy*:[16] a clear goal (*what* to do, "health for all" by some year); 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, far-sighted municipality or group. Not the least the diversity and the strength of the local initiative were significant"[17]

[16] 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.

[17] Karl Evang, "Helsestellets utvikling i Norge i 75 år," Tidsskrift for Den norske Lægeforening, Jubileumsskrift 1955, ppe 51-70. The quotation, translation ours, is from pp. 69-70.

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 if, 25, 50, 75 or 100 years ago one knew what the end result in the 1980s would be like? It should definitely be seen as a great step forward by most, relative to the situation one hundred years ago (maybe not relative to the situation 25 years ago); but better insight in the consequences, many of them not willed at all, might have led to other policies at some points. Yet, the drive for health was obvious: Norwegians courted and court neither pain nor death – and the lower classes had the health of the upper classes, seen as attainable, as an obvious motivation.

Nevertheless, what brought it 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,[18] seeing "health" as something inside human beings, suspended between nature and culture embedded in society divided into four sectors – as seen by various social sciences:

[18]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.

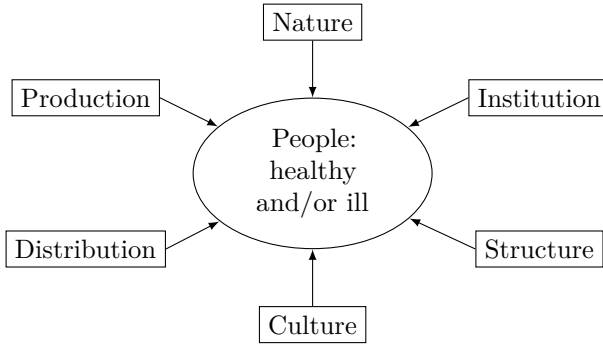


Figure 2.1: Sectors Affecting People's Health

These are general terms, and they are all very ambiguous. The sectors are carriers of negative as well as positive health resources, promoting as well as impeding health. In the center we have put health itself, defined as it has been in the preceding pages. It is in a process, not only as quantity and quality of health achieved, but the very definition of health as a goal 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 given up. The exploration will have to be in fairly qualitative terms, but that does not preclude explorations of structures in the "web of interrelations," and processes in those structures. First, however, an exploration sector by sector, interpreting these six rather general terms in a way useful for the exploration of health systems. This will be done in the order of a clock from 1 to 12 and then the center 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 provin-

cial ("fylke") and municipal ("kommune") levels, the latter 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 itself, at the very outset.

It is huge. Peter F. Hjort has given a very useful summary in quantitative terms.[19] The formal Norwegian health sector counted in 1976 98.000 employees (in 1980 actually 120.000) or 6% (more than one out of 16) 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 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 old, 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

[19] 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 bout the size of the formal sector.

- 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 over the 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.[20] This

[20]Thus, innoculation 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) – translations ours:

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
1914 Revision of 1909 sickness insurance
1915 Ten hours day introduced
1916 Lawy abouts compolsury arbitration
1919 Eight hours day by law
1923 Law about old age insurance but never practiced
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
1946 Law about war pension for military
1946 Law about war pension for civilians
1948 Law about pension security for sailor and 1951 for forest workers
1953 Law about protection of minors
1956 Obligatory sickness security

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,[21] 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 inter-sectoral perspectives could be brought in from the very beginning and in the only setting that is sufficiently concretes the local level. But it took some time before this plan could be said to have been implemented:[22] 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

1957 Law about pension security for fishermen
1958 Occupational injury security, instead of accident insurance.
1959 New law about unemployment security
1960 Law about security for handicapped
1961 Law about psychiatric health care
1964 Law about security for widows
1964 Law about social care
1966 Law about "folketrygd" general social security for all
1977 Law about occupational practiced 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.

[21]Evang, op. cit., p. 53.

[22]Ibid., p. 54.

the tasks of post-war reconstruction.[23] Thus, the central health directorate employed 9 persons in 1980 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 is 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 came the first (royal) commission 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. Just as for health administration in general the beginning was made at the local levels the sickness insurance system is municipal.

There was general agreement politically that some system of that kind was needed: the conservative, bourgeois parties because they saw it as a means of social pacification (like Bismarck); the socialist labor parties because they saw it as a human right. The latter had three basic principles underlying their fight:[24]

- *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 elses

- *redistribution* – the system should be financed from taxation, and more particularly from progressive taxation, meaning

[23] Ibid., p. 58.

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

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.[25]

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?

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

- *As to 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 year 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).

[25] Ibid., p. 58.

- *As to mortality transition*: the studies by McKeown[26] are very relevant in Norway as tuberculosis played such an important role. He showed that whereas 4.000 people died in England and Wales from TBC in 1840, this had already decreased to 3.000 when Robert Koch, in 1882, discovered the TBC 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 TBC from 1850.[27] And when it comes to the new diseasess, Hjort is very outspoken about this. There are three big Life-style conditioned causes of deaths cardiovascular diseases, cancer and accidents (accounting for 75% of the deaths; and 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.

- *As to morbidity prevalences*: much can be said in addition to this, but let it suffice to point to one things 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 also because the health sector does not know what to do about them. And some of them

[26]See Thomas McKeown, The Role of Medicine, Princeton, Princeton University Press, 1979. Also see McKinley, J. 8. and MickKinley, S. M., "The Questionable Contribution of Medical Measures to the Decline of Mortality in the U.S. 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.

[27]The Norwegian experience during World War II 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., pe. 190.

are also iatrogenic diseases;[28] meaning diseases produced by the health sector itself, including "hospitalitis." Irrelevance and counterproductivity.

However, there is a limit to how far these points should be carried. The health sector, because of its size and its growth, had 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 health as a priority even if causally many of the gains have been made by nonhealth 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 this works is relatively obvious. Mention will only be made of two less obvious examples.

Here is a presentation, *as seen from abroad*, of the first example:[29]

[28]A concept made popular by Ivan Illich's 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, Pradist, 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 in Taiwan to appear in People's China as well" (p. 107). Of course, Illich's 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.

[29]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 feedstuffs was for the period 1974-79, 34.8, 36.2, 3305, 35.9, 35.7 and 35.7, in other words no improvement. The production of potatoes went down from 890 million kilos in 1959 to 635 in 1969, 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 feedstuffs

> "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 in imported food and animal feedstuffs, the strengthening of domestic agriculture to cope with possible interruptions 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 feed grains [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

produced in Norway is only 15.8 (estimated for 1980) – all of this according to the official Ernæringsmeldingen (Nutrition Report).

> 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).[30]

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 characteristics of Norwegian public administration:

- ability to design multi-purpose programs (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 programs 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:[31]

> 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

[30]The annual per capita consumption was 39.9 kg for 1953-55, 41.9 for 1973 and then from 1973 onwards: 39.1, 34, 29.7, 39.5, 4064, 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 Ernæringsråd, Årsmelding 1980, Rapport om matforsyning i Norge, Oslo 1981.

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

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, some words about 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 they 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[32] 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[33] ("Caucasian"), speak Norwegian and are members of the Norwegian evangelical-lutheran church (1980

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

[33]According to Wikipedia, by March 5, 2018, 17% of the population were immigrants, the largest groups coming from Poland, Lithuania, Somalia (40100 persons), Sweden and Pakistan (42000 persons, 77% of whom are citizens).

about 92%),[34] 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 cone side of the wall controlling health resources, favoring their own kind. There are some walls, however, at the margin 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 bee cause 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.[35] 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 homegeneity the implication of this, how ever, is also what may become an increasingly negative health resources a lack of diversity, a tendency to administer exactly the same health resources in exactly the same way to everybody, with obvious consequences in terms of lack of experimentation, and too solid binds to patterns that may already have been bypassed by new approaches. Homogeneous schooling reinforces this.

Other non-Caucasian are from India (9350), Marokko (7800), China (6700), Ethiopia and Eritrea (8600).

[34]By January 2018, membership was down to 71%.

[35]A theme elaborated by Harry Eckstein in Cohesion and Division in Norwegian Society,

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 favor 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[36] and they share among themselves 12 million memberships in voluntary associations–very many 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. Few sectors are so effective in spreading the message of non-smoking as smoke free association meetings.

But there is also a more specific aspect to this:[37] the many Norwegian voluntary associations directly related to health. The four big ones; *Norges Røde Kors* (Norwegian Red Cross, founded 1865), *Norske Kvinners Sanitetsforening* (Norwegian Women´s Public Health Association, founded 1896), *Den norske nasjonalforenigen mot tuberkulosen* (The Norwegian association against tuberculosis, founded in 1910) and *Norsk Folkehjelp* (Norwegian People´s Aid, founded 1939) differ slightly in social recruitment. 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 addi-

[36] At the end of 2018 an estimated 5.33 million people will live in Norway.
[37] Evang, op. cit., p. 65.

tion 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 organizations: *Norges Vanførelag* (Norwegian society for the handicapped, founded in 1931), *Norges Blindeforbund* (from 1909; originally The self-help association for the blind, founded in 1900), *Mentalhygienisk Forening* (Association for the mentally ill, founded in 1930), etc. A dense network, indeed.

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 do not distrust 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 if 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,[38] 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

[38]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.

of the present size by the end of the next century a possibility,[39] 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, it seems. And services are still scarce, with long queues for operations, particularly for the old (eye operations).

Culture. There is something in Norwegian ethos that e.g. would seem to favor 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 and lives through transmigration. The implication is that something can be done *now*, that success, in getting healthy, is a sign of already having atoned for the sins of God's workings ("Gud står attåt") like in 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, might have as a consequence inaction to become healthy again through self-care, the care from others, professional or note 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, in health or business or both – and then God lets him succeed if He so wills. It is easily seen how this gives to the word "pure" compatible religious and hygienic connotations. Pure in one, pure in the other.

[39]Estimates of the future population by the Central Bureau of Statistics from 26 June, 2018, showed a middle forecast of 6.5 million with immigration the most important factor changing the assumptions made in 1980.

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 well care of the body one should be close to Nature, much outdoor life, fresh air, exercise and sports, healthy foods and life-style. To be ill – unless it can be "excused" as acute and relatively unavoidable – means that one has not lived up to this obligation. For most Norwegians this is probably no longer 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 clean 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 practiced Norwegians in general will look like workers in outdoor occupations like 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 TBC patient. And to look like a worker carries no stigma – in a highly non-aristocratic country most people do anyhow.

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 Norwegians.

There is a particularly important and synergistic combination of the institutional, structural and cultural factors we have mentioned. Norms from the health sector, such as

- Thou shalt wash your hands

- Thou shalt not smoke
- Thou shalt use contraceptives

may be accepted, partly because it comes from a norm-sender, the health authority, generally trusted, 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 political fight. But that 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, P. Hjort, puts his advice to the Norwegian public in the form of ten commandments:[40]

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 could also work in a Christian country). These are typical life style rules, even if some of them

[40] Hjort, op. cit. (born in 1924, died in 2011)

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 bicycling impossible. Whether this whole normative approach works, remains to be seen; it is an empirical problem.[41]

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

Table 2.2: Four Styles of Health Development

	Inegalitarian	Egalitarian
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, not an inadequate description of many Third world societies today, one could then

[41] 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.

proceed in two directions that do not exclude each others 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).

Norway may be said to have done both: lifting the bottom levels up through the hygienic practices of the upper classes, and by distributing health resources through the dense network of health services, in principle accessible to all. As we have seen, there are some class differences in the enjoyment of health because Norway is a class society, even an inegalitarian society. But there is also 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 has been aiming for position D in the table. Upper 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 tend to "trickle down" in Norwegian society, through the energetic and efficient work of the dense network of organizations. There is also a pattern of solidarity across classes: today (as opposed to some generations ago) material and somatic suffering of the lower classes is also felt by those higher up (but less so for the aged, it seems – the middle-aged seem to accept their suffering).

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 class-less 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) for 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 recourses as sugar-rich, carbonated soft drinks than on health information of the soft, gentle kind indicated above.[42]

Thus, there are both streaks in the system; the christian and the buddhist, the social democrat and the socialist.

Production. Norway has been through a long period of economic growth and is now (1981) country no. 8 in the world in terms of GNP/capita, no. 9 being the United states.[43] But economic growth as such is hardly a necessary 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, e.g. in the way that seems to have been the Norwegian way (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 a service that costly is needed or even useful. As the critics indicate it could probably be reduced considerably in cost 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 Norwegians become less believers in professionalism than they are today. Much of the health service is simply a byproduct of an urbanization/modernization/industrialization process that requires homologous structures in other social sectors, precisely because of the principle of homology.

[42]Hjort, op. cit. 108. 1981 data.
[43]1981 data. By 2017, Norway ranked no. 3 and the USA no. 7.

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

- *natural environment*
  - excessive cold (heat not being a problem)
  - excessive humidity (drought hardly a problem)
  - bad harvests or catch (bad years, "uår")
  - disease-carrying vectors
  - floods, avalanches (earthquakes no problem)
- *human-made environment*
  - garbage, pollution
  - industrial accidents
  - traffic accidents
  - stress-producing social structures
  - malnutrition
  - hazardous consumer items (spray-cans, chemical soap, etc.)

just to mention some. Obviously, good housing and good clothes meant very much as did 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 are less resistant, more susceptible to infectious diseases – a factor possibly much more important than the seek-and-destroy tactics used against the germs, including the isolation of the infected and the inoculation of the non-infected.[44] And there is no denial that *some* economic growth has been necessary to bring about these conditions – of hygiene, shelter/clothing and adequate nutrition – but probably not by far as much economic growth 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,

[44] 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.

or even the conditions, of economic growth, including bad nutrition based on processed, additive-infested food devoid of natural fibers etc.[45] And, being such "by-products" they are also considerably harder to deal with, as pointed out by most critics of economic growth oriented societies of which Norway is one, otherwise Norway would not have been in the top economic growth league and not have had those problems.

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.[46] Economic growth was based on what at that time were labor-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 today, 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 they, a small elite, will head straight for the expensive diseases of overdevelopment and monopolize the most costly positive health resources, except for some perfunctor

[45]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 Lapsed, op. cit., p. 43.

[46]According to Economic Survey 1900-1950 (Central Bureau of Statistics, Oslo 1955) GNP for Norway quadrupled 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 (85) above – with special reference to Irma Adelman.

impediment-removal lower down in society. It is considerably more easy to convince a capitalist that he should pay taxes to the state in order for the state to provide free hospitals for his 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. Even as consumers they are not worth much because of their miserable buying power. The rest is, sentimentality, religion, ideology.

Nature. Most of what can be said about nature has actually been said already. Suffice it 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, they are – perhaps – basically pantheists with nature as their House of Worship. 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 tree, 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 somewhat restless. The climate is difficult – one needs protection. There is plenty of fish all the times; even game, and berries and roots, but only 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 short: there is the famous factor of challenge: neither too much, nor too little.

People. In conclusion, and as a way of testing all these hypotheses about Norway, what kind of attitudes do Norwegians have in connection with questions of health? Of course, attitudes are bad predictors of behavior, 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 (1947-1966),[47] 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.

When asked (in 1954) "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. 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).[48] Obviously, the officially, even legally backed measures that came later were launched right into the dilemma, but riding on a wave of non-smoking sentiment 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 have tried to do something about – even though 79% (in 1957) feel that overweight people are

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

[48]Smoking behavior decreased drastically the next decade; in 2017 only 10% of men and women were smoked daily.

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%) – as a sign of how recent is the grip that disease had on 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 seemed also to be up-to-date as to what causes these diseases (from 1966):[49]

Table 2.3: Laymen's opinion on the relative importance of different factors causing heart disease and cancer (1966).

Heart diseases		Cancer	
Fat, fat acids etc.	22%	smoking	74%
Bad food	14%	pollution	15%
Overweight	10%	hereditary	1%
Stress, Nervousness	26%		
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?

[49]Fat is now known not to be cancer-causing, except for synthetic trans fatty acids, which before 2000 was found in partially or wholly hydrogenated margarines. Natural fats in foods do cause heart disease, while synthetic trans fatty acids do. Too much omega-6-fatty acids may also be implicated. The main culprit is most likely sugar and other refined carbohydrates.

Norwegians believe in vaccinating everybody under 45 against polio (62% in 1959) 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 that is an interesting trait: attitudes to healers of various kinds are not negatives: 38% feel that people who are ill can be cured through prayer and the touch of a hand (48% feel no, in 1950) and of those 38% two thirds felt that this applies to all diseases (half of the others think it only applies to nervous diseases).

Norwegians wanted to be told (71% in 1948) if they had only some months left to live or if they suffered from cancer (81%, in 1949). And they thought of death (73% in 1949) and claimed not to be afraid of it (75%). In short, a relatively rational, easy people!

2.3. The case of Norway: towards a model of health processes

Given all the 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 the process in a model. The term "model," then, does not stand for quantitative modeling of the process: the costs in neglecting non-quantifiable factors are not nearly compensated for in terms of a higher level of precision. What we are aiming for is more like a synthesis that permits us to grasp a number of fairly complex processes in a farm that is simple enough to be surveyable, yet rich enough to yield some non-trivial insights as one works more with the model. In other words, the model should be a powerful heuristic. It has to take some stands, not merely escaping into statements of the "everything depends on everything else" kinds. And it should permit some kind of deductive reasoning in a relatively coherent fashion, if not with mathematical, and particularly not with quantitative rigor.

Thus, the key point is that of identifying key variables and key relations among them, permitting us to peek a little into the future and discuss the strategic levers for health processes.

They are certainly not necessarily amenable to deliberate intervention. But they should be chosen in such a way as to permit not only a discussion of past, future and present aspects of health in Norway, but also comparisons with other countries in order to understand better similarities and dissimilarities in the health processes.

With this goal in mind the general flow of the model looks as follows, using the six sectors of the preceding sections only dividing the institutions in formal and informal, and referring to production as "growth":

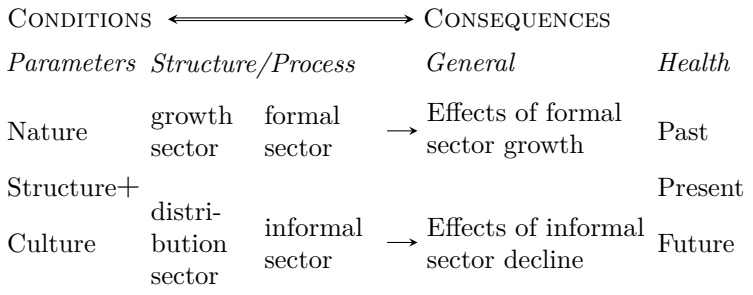


Figure 2.2: The Components of a Health Model

We shall first explore the general flow from conditions to consequences – as those words indicate – and then look at the feedback, the *Rückkopplungs-Effekt*, if there is any. It is then assumed that *health*, particularly in the broad WHO sense of "complete physical, mental and social well-being" comes very close to summarizing most human concerns – for instance as expressed in needs-categories.[50] Health is:

[50]See Galtung in Lederer, *op. cit.*, ch. 3.

- SURVIVAL = the opposite of mortality (less than normal lifespan)
- WELL-BEING = the opposite of morbidity (less than normal level)
- IDENTITY = *mental* well-being
- FREEDOM = *social* well-being

Obviously "health" summarizes human concerns as the first two have to do with physical well-being. The sign "=" is perhaps a little too strict as "health" turns these broad categories in one of many directions.

The general logic of the model, then, is as follows. There are certain *parameters* that serve as a point of departure in any discussion of what happens in a particular country; the kinds of things that are put in the beginning of an encyclopedia articles nature, structure and culture; if the article is of any value. Although they can be formulated as variables, their variation within relatively long time periods is limited enough to regard them as constants – parameters. Any discussion of what happens in a particular unit undergoing change is meaningless without consideration of these parameters. They set the stage for the historical drama. But more than that: if they had been different, that drama would also have been different, for better or for worse. The parameter distance to another country should, then, if the model has any validity, be a crude measure of the extent to which the same health process will take place. The parameters are not seen as totally beyond change (structure more than culture, culture more than nature), even manipulation. But in general a health process has to be tailored to the local nature, structure and culture – to disregard them is merely one more case of human folly.

The model, then, takes the typical "development process" all countries in the world seem to be undergoing – starting with countries in the Western world as early as the sixteenth century (but speeding up only after the industrial revolution) – as the basic cluster of independent variables. This is done in terms of two perspectives: *growth* vs. *distribution*, and *formal* vs. *informal*,

all four referred to as sectors. The degree of balance between growth and distribution, and between formal and informal sectors, then becomes a key to the understanding of social transformation – one might even say social history. The relation over time among these four, in general, opens for a number of possible trajectories that will not be explored here. The focus is on the special case of Norway, characterized by *long term growth*, by keeping the *distribution relatively constant* in terms of distance between high and low but with the *material situation of the low improving considerably*; by a steady *increase in the significance of the formal sector*, taking over more and more of the functions of the informal sector; and, consequently, by a *decrease in the significance of the informal sector*. Growth and formal sector up, distribution constant, informal sector down – that is the story in the case of Norway.

Of course, this has consequences for the good and for the bad, to be spelt out later under the heading of "general consequences," and then specified to "health consequences." But these consequences, in turn, become the conditions for historical counterprocesses to the extent, one would assume that some of them are sufficiently negative for sufficiently numerous and/or powerful groups. Since some of these counterprocesses are in full bloom today, known as as we live in a particularly "alternative ways of life" movements,[51] interesting period right now as we are probably witnessing turning points in important historical processes.

Let us then turn to the specifics, meaning stating the parameters for Nature and Culture (the case of Norway), and the dimensions for the explorations of the Growth, Distribution, Formal and Informal sectors. Again, it should be kept in mind that to be of any value a compromise has to be struck between parsimony and richness, and for this there cannot be other criteria than those related to the vague concept of "fruitfulness" of the model. The following, then,

[51] See the paper referred to in footnote 10 above and Dag Poleszynski, "Overdevelopment and Alternative Ways of Lifes The Case af Norway," *CCPR Papers*, No. 88, University of Oslo, 1980.

in synoptic form, are the factors chosen, based on the analysis in the preceding section.

As to Nature: Three clusters are seen as important

- health obstacles: *climatic fluctuations*; *microbes*; *disasters*
- health resources: *fresh air/water*; *fresh food*; *fresh nature*; *open space*
- economic resources: *soil*; *raw materials*; *energy*; *geographical location*

As to Structure: *homogeneity*; *homology*; *equality*; *participation*

As to Culture: Three clusters are seen as important

- health: *health as value*; *individual as responsible*; *Nature closeness*
- growth: *faith in progress*; *faith in authority (and science, God) competitiveness*; *missionarism*
- distribution: *egalitarianism*; *compassion/solidarity with the poor*

As to Growth: *industrialization*; *urbanization*; *modernization trade to compensate for insufficient resources.*

As to Distribution: *uplift of the poor*; *progressive taxation*; *welfare state*; *voluntary associations (trade unions, parties).*

As to Formal sector: *statism*; *capitalism*; *professionalism*[52]

[52]Björn Hettne, in his excellent *Strömfåre och kontrapunkt i västerländsk utvecklingsdebatt*, Naturresurs och Miljökommitten, Stockholm, 1981, sees the major expressions of the dominant trend in Western development in terms of "industrialism, etatism och professionalism." We agree, only prefer to make a distinction between capitalism and industrialism: the latter can be carried out mainly by capital, mainly by the state, or both.

- health: *a formal health sector*[53] – *preventive medicine*; *curative medicine*; *primary, secondary tertiary are health bureaucracy – medical corporations*; *medical professions*

As to Informal sector: *family*; *peer groups*; *local community/groups*

From certain natural and cultural preconditions, by no means unique to Norway, flow a number of points about growth and distribution. Norwegian nature has a Toynbee'an characteristics: it offers neither too much, nor too little challenge. As a part of general European/christian culture the idea of doing something about it came natural and (perhaps particularly through protestantism) and crystallized as cultural patterns very congenial to growths the idea of progress, respect for authority (Augustana 16), sacred and secular. A substantial growth sector built around the foci of growth, industrialization, urbanization, modernization and trade started emerging even during Danish rule (till 1814). *But there was also a softer undercurrent*, less competitive and more compassionate, receiving its expression, and being reinforced by, patterns of homogeneity and equality (or at least a relatively high level of equality of opportunity), and care for the poor by religious and lay circles alike.

The institutions needed to steer the double concern with growth and distribution was, of course, the formal sectors the *state* with its bureaucracy, the *capital* with its corporations, and the *professions* with their intelligentsia (the BCI-complex).[54] The state, in particular, became a tool for both growth and distributions *the welfare state*. The corporations were and are more concerned with growth, but pay a substantial portion (in direct and indirect taxes), of the costs of the welfare state. The intelligentsia was

[53]The secondary care is the hospitals, the tertiary the institutionse – the way those terms are used here. In addition there is, of course, the whole field of preventive medicine; and the total institution is carried by a "medical-industrial-professional complex" reflecting the general composition of the BCI-complex at the center of the Western social formation. So there are three dimensions to the formal health sector, as indicated.

[54]For more on this "complex," see Johan Galtung, "Global - Goals, Global Processes and the Prospects for Human and Social Development," GPID Papers, Geneva, 1979.

and is split in those whose emphasis is more on growth and those whose emphasis is more on distribution – in political terms those more to the right and those more to the left (in Norway the former tend to go to the corporations and the latter to the bureaucracies).

Statism, capitalism and professionalism, firmly rooted in a faith in progress (and, by implication, in growth) and in authority, are the three pillars of "modernization." A formal *health* sector (FHS) had to be custom-tailored to this formula, just as a formal *education* sector (schooling, in other words) had to be. Concretely, this means that it had to be centralized – with the directorate of health, the main seats of companies in the medical sector, and key institutions for teaching/learning and research in the medical field located in the capital – and it had to be *vertical* – like any state bureaucracy, or corporation, or profession, the latter from professors downwards to clients. The miracle is that centralism did not go further; that so much remained municipal. There also had to be a pattern of cooperation or integration between the three pillars. Medical products – pharmaceuticals, all kinds of equipment for primary, secondary and tertiary health care – had to be certified by the state but, once certified and Norway is reputed to have one of the strictest practices on the war) be used; like for professionals with their *licentia practicandi*. All of this to be done according to the rules of the formal sectors decision-making according to laws and regulations; market transactions according to prices; and professional action according to the canons of scientific research for the researchers and the codes of professional conduct, technical and ethical, for the practitioners.

Thus, going back to the flow chart once more; there is a "hard" upper line based on growth and a strong formal sector, but there is also a "soft" lower line based on distribution and a strong informal sector. From the circumstance, elaborated below, that the upper line leads to problems it does not follow that the lower line does not. It is rooted in a sense of egalitarianism and compassion, possibly also decentralization – and municipal autonomy, but exercised in a society characterized by homogeneity and homology, by being

racially, ethnically and structurally rather homogeneous.[55] In that society the political fight for equality will be carried by trade unions and liberal/labor parties; and the general fight for uplift of the poor by a much larger section of the society, the voluntary associations in general including the religious ones and those with a conservative political bent. Much of this health work can be done in the informal sector, at the local level. The family, and the circle of friends, are always – in principle – major factors of distribution in any society, with family members and friends sharing food, shelter and clothing relatively equally.[56] We say "in principle" and "relatively" for there is certainly the question of how the sharing cuts across the borders of gender and age. There has probably been less of the pattern of women eating both last and least in Norway than in many other countries, and less starving of the very young and the very old. There has been a strong pattern of helping the poor at the local level. But the general problem of the informal sector, of excessive localism, as a vehicle of distribution remains: there are rich communities and poor, among other reasons because of asymmetries in economic geography, in nature – however much structure and culture are shared.

In Norway this equalization has been the task of the welfare state, with gradual transfer of key social functions from the informal to the formal sector, especially in the fields of medical services and schooling, but also in much of economic life, and with the local level as the lower echelons of a centralized, vertical formal sector. To the population primary, secondary and tertiary medical care, like primary, secondary and tertiary schooling,[57] are by and large free of charge, having been transferred from the sphere of commodities to the sphere of rights or "entitlements"[58] – with the accompanying "revolution of rising entitlements" There is,

[55] Again, with the important exception of the *Samer* and the foreign workers.

[56] A major institution for sharing with friends is, of course, the *party*.

[57] Of course, the welfare state channels portions of the salaries of everybody into the medical and schooling sectors. As there is more explicit mention on the medical aspect as "social security", there is more of a feeling of paying for it. That distinction could actually just as well be removed.

[58] Daniel Bell.

of course, transfer of money, from the state (and provinces and municipalities) to medical (and pedagogical) business and to the professionals, via social security, financed by progressive taxation and employers. So far, so good.

The question, now, is what the general and health consequences of this total system have been, over time. This can be explored in many ways. Here we shall make use of general theory in this field, with five bundles of four effects each, adding to that the effects in terms of the formal and informal health sectors. The position taken is as follows:

The first clusters of conditions and consequences is the positive one; the cluster rightly applauded by the prophets of growth,[59] The second, third and fourth clusters are the negative ones; the clusters equally rightly lamented by the prophets of doom. The survey above, and the comments now to follow, represent an effort to overcome the unfortunate polarization between the two types of prophets, attempting to give attention to both aspects, to the obvious *yin/yang* nature of things.

The *first cluster*, in retrospect, is simple although much research is still needed to assess the relative significance of health sector and life styles the changing work structure, and the ability to counteract fluctuations in the climatic conditions through a higher material standard of living. Absolutely crucial was the ability to stabilize consumption relative to fluctuations in production, due to "vår" (bad harvests), and due to economic depressions (when people still had access to free hospital service). Within the formal health sector there is also the important discussion of how much was due to general hygiene, how much to innoculation etc., and how much to the other factors. But these are details. Let us celebrate – all of this was possible – at least when the parameters are right or can be made to be so.

[59] Of course, they do not want rapid increase of the population but certainly do not want population decrease or zero population growth either. Population growth seems to have *value*, just like economic growth – as a part of the general growth syndrome.

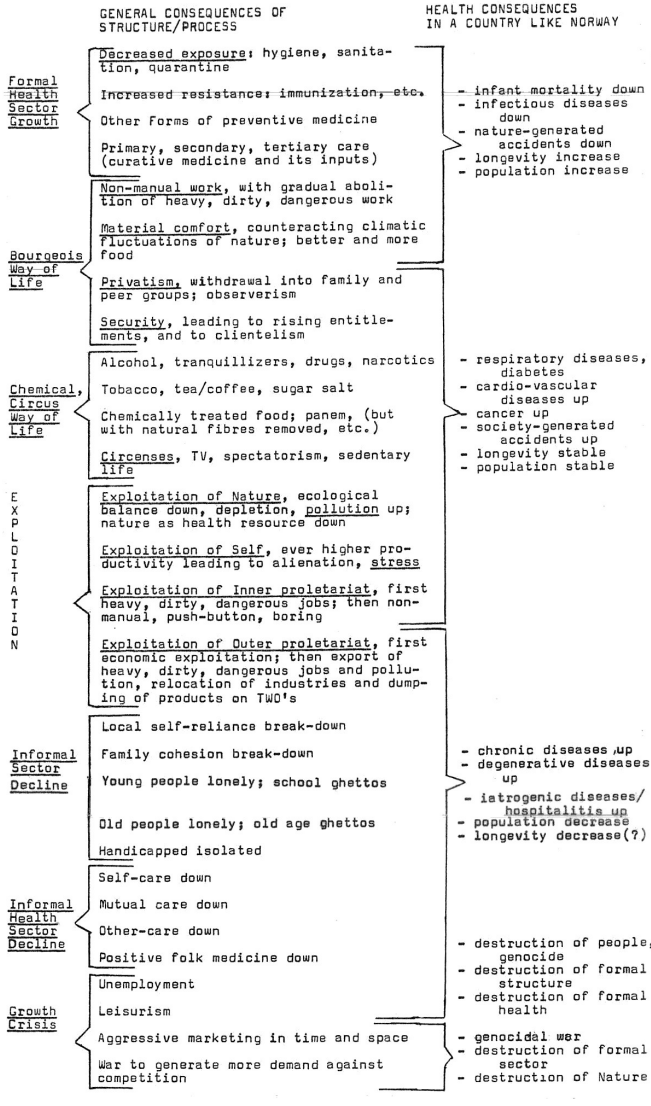


Figure 2.3: Social Structure/Process and Health Consequences

Today, however, the first cluster has an air of innocence about it. The tremendous productive capacity brought about by co-ordinated growth, with the consequences in terms of changes in social structure, also had built into it a sedentary, lack-of-exercise aspect – and the observerism and clientelism that would come naturally when so much of the basic decision-making is done at the macro/national level, in the formal sector, and not at the micro-meso/local levels, and in informal sectors. Moreover, this decision-making is no longer mainly negative (laws prescribing municipal sanitation and personal hygiene, police enforcing it) but positives the welfare state guarantees a flow of goods and services. It engenders a passive, not unpleased or unpleasant attitude of general acceptance. Health becomes not only an individual duty, but also a human right.

This particular cluster of non-manual work, material comfort, privatism and security forms a style of life. We have referred to it as the "bourgeois way of life" (BWL) – it is what the Bürger, burgher (those inside the Burg) have been aspiring for since the end of the Middle Ages. It represents basically an escape from nature, from its hazards and dirt, its thistles and thorns, drought and flood, heat and frost – into ever smaller groups, such as the nuclear family as a unit of consumption. But it seems to be frought with internal and external contradictions. The external contradictions stem from the circumstance that at least so far in human history the condition for anybody to enjoy the BWL is that somebody else does not do it but does live close enough to nature to extract from it what is needed for human sustenance, through heavy, dirty and dangerous work. And the internal contradictions seem to derive from the circumstance that BWL, once attained and enjoyed for some time, may turn out not to be that enjoyable.

That is where CWL, chemical/circus way of life, sets in and together with BWL constitute the typical dominant modern life style. Probably BWL is too far removed from what humans were originally adapted to. Stresses build up, possibly released temporarily through indulgence in alcohol, tranquillizers, drugs, tobacco, sugar, salt and other stimulants to which one may become addicted,

gradually transforming the human body away from nature. Added to this then, comes the poor quality of food like white, denaturalized sugar/ crude, rustic, low class)[60] and increasingly treated with preservatives to facilitate its entry into ever longer economic cycles with considerable time spans between production and consumption. And on top of all of this mass entertainment to compensate for the poverty of privatism, relieving people of the duty to do so themselves (singing, playing, telling stories), depriving them of the challenge in doing so.

And then, the external contradictions. The upper line was a hard line, as mentioned. It is based on a complex, shifting pattern of exploitation, by which is meant not so much unequal exchange, as pushing a system beyond its capacity of reproduction. Nature is exploited by breaking down ecological balances, leading not only to resource depletion – of minerals, of that their health resource, water – but also to decreased capacity to absorb an increasing amount of pollutants in other words to pollution, toxic for human and/or the rest of nature. Added to this comes the key expression of the "scientific and technical revolution," with its faith in scientific authority and professionalism, on which industrialization as a key component in the growth formula is based: the ever increasing (labor) productivity. With higher productivity the contact with the product has to become more abstract; anonymous marketing destroys the link between the products and known, identifiable customers, producing alienation, and, presumably, some kind of stress. And then there is the exploitation of the working class although relatively soft in Norway; in addition to the obvious economic exploitation exposing them to disagreeable work and health hazards. Through division of labor, however, such jobs are pushed to the the external ecenomic sector, meaning in this context the third world and the internal third world, the foreign workers. In this process Norway has played a relatively modest role, though.

[60]Dag Poleszynski, "Food, Social Cosmology and Mental Health. The Case of Sugar," CCPR Papers No. 90, University of Oslo, December 1980.

With these internal and external contradictions the picture starts looking less positive. And the health consequences now become increasingly clear. Stress and pollution together, against a background of clientelism, observerism and spectatorism and a general distance from nature, with a more artificial environment and pattern of consumption, including lack of exercise, artificial diets and a strong reliance on cars ("bilisme") seem to be key factors producing cardiovascular diseases, cancers and society-generated accidents (particularly traffic accidents), the three great killers of the *second cluster*.[61] There is no longer the same spectacular longevity increase and many people suffer from respiratory diseases and diabetes, and from mental disorders. And whereas the first cluster could produce a spectacular population increase through the decline of infant mortality with many other factors constant – thus promising not only relatively healthy but also plenty of labor (and for more aggressive nations, soldiers) – societies such as Norway start approaching zero population growth. The medical research establishment tries to apply the successful (or seemingly successful) microbe/infection model from the first cluster to the second cluster, and wastes possibly as much as fifty years looking for a general virus explanation for malignant neoplasms.[62] The model recedes into the background with the accelerating discovery

[61]This is reflected in the advice given by physicians to the population, as reported above; or as stated in the important Healthy People, The Surgeon General's Report on Health Promotion And Disease Prevention, U.S. Department of HEW, Washington, 1979, p. 103

- elimination of cigarette smoking
- reduction of alcohol misuse
- moderate dietary changes to reduce intake of excess calories, fat, salt and sugar
- moderate exercise
- periodic screening for major disorders such as high blood pressure and certain cancers
- adherence to speed laws and use of seat belts

Actually quite different from the medical approach to first cluster diseases which was much more *medical*, in the narrow sense!

[62]Peter Barry Chowka, "The National Cancer Institute and the fifty-year cover-up," *The Ecologist*, No. 6, Nov./Dec. 1978, and Ross Hume Hall, "Cancer and Nutrition," *The Ecologist*, No. 2, 1981.

of carcinogenic substances,[63] And the efforts to understand the decreasing birth rate and increasing cancer incidence in terms of managing population fail although slowly. Time is needed for the *sui generis* nature of the second cluster to penetrate.

The *third cluster* starts evolving about at the same time as second cluster. The formal and the informal sectors are competitive; if a function is transferred from the latter to the former the latter will be weakened, its *raison d'être* being sapped. The local level is no longer relatively self-reliant, being reduced to nodes on nation-wide, even world-wide economic cycles. The family splits in terms of age and gender: spouses separate and divorce, grandparents are less together with the parents, the parents less together with the children and the children less together with each other. Secondary and tertiary medical care "take care of" the former, primary and secondary schools of the latter – in addition to just leaving them to themselves. The informal health sector breaks down as a result of this and as a result of the competition from the formal health sector.

Added to this, then, come the consequences of the recurrent economic crises of a growth-oriented system. There are limits to growth, not only set by exploitation destroying the very basis for the production by pushing nature, self and inner and outer proletariat beyond the limits of adequate reproduction, but also because of limits to consumption. Supply may exceed the demand, e.g. because of market saturation or competition from other producers. To reduce the supply "overproduction" has to be avoided, and the classical methods would decrease the labor input through unemployment and/or shorter life time working hours (fewer hours per day, days per week, months per year, years per life – the latter by means of prolonging schooling and advancing retirement). In short,

[63]The very day this was written certain types of hair-coloring and eyeshadows were officially suspected of being carcinogenic in Norway's Dagbladet, 19/8 1981. Possibly they will be proscribed. The issue is old. As seen in New Scientist 6 Nov. 1978, "Hair dyes colour breast cancer fears" by Peter Gwynne, New York: "A wave of concern went through American consumers last year with publication of a scientific report by the National Cancer Institute that linked hair dye with cancer in laboratory animals."

unemployment and leisurism, adding to the general patterns of alienation, clientelism, observerism, spectatorism and segregation into school and old age ghettos already mentioned. A contracting society, even if some economic indicators are expanding.

How would all of this show up in terms of health consequences? One would expect something beyond the *mortality transition* of the first/second clusters, from infectious diseases and nature-generated accidents to cardiovascular diseases, cancer and society-generated accidents. As the third cluster evolves further, it is not at all impossible that the formal health sector will have managed to decrease the mortalities of the second cluster – cardiovascular diseases may already be heading in that direction and the cancers may follow – perhaps not so much by preventing or curing them as by making it possible to coexist with them for a longer period, as is done for mental disorders. The chronic diseases in the musculo-skeletal and nervous systems will increase accordingly – a chronic disease being a state of coexistence – the percentage of the population suffering from some chronic disease at any given point in time. Degenerative diseases (such as Parkinson's, Alzheimer's) become more prevalent. Dependence on the formal health sector and the decline of the informal health sector add to the syndrome. Mental disorders increase, as a reaction to this environment, perhaps mainly the lighter varieties (the "nerves"). In short, there is a *mortality to morbidity transition* But one new mortality factor may emerge: *suicide* as a cause of death.[64] According to what has been said above the suicide incidence should in the future, increase most for the young and the old, because of the high level of marginalization from what remains of productive society. 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.

[64]In West Germany ten old people, aged sixty or above, commit suicide every day. In 1978 14.000 West German youths attempted to commit suicide, and 600 pupils, mainly from high schools, killed themselves – see Hans-Eckehard Bahr, "Du hast keine Chance, aber nutze sie," Die Zeit, 10 April 1981, p. 43. https://www.zeit.de/1981/16/du-hast-keine-chance-aber-nutze-sie/komplettansicht

The basis for the WHO "state of well-being" is eroded; and this may ultimately show up as population decrease;[65] perhaps also as longevity decrease.[66] Incidentally, the size of a population, not only its mortality/morbidity, is here included as a health consequence, positive or negative depending on the circumstances.[67] Health is also a question of the *number* of healthy people sustained by a society.

And that leads straight to the *fourth cluster* bringing in, for full, the international consequences of this particular social formation. To what extent they will apply to "a country like Norway" remains to be seen, but they are obviously health-relevant. It is not merely a question of genocide in a nuclear war (or ABC war in general), with destruction of life, things and nature, but also the destruction of the mechanisms sustaining life (the genetic basis, the formal health sector, perhaps also the informal one), producing things, and sustaining nature (the genetic basis, the whole system of ecological balance).[68] This is not the place to elaborate, but there is an obvious relation between crisis and wars preparation for war creates demand for the military machinery, that machinery creates

[65]Thus, Norway with slightly above 4 million inhabitants may well have only 2 million by the end of the next century – and the two Germanies, Austria and Luxembourg have already negative population growth rates. Much of this is due to the aging populations with constant birth rates the population above 70 in Norway, which was 358.080 out of 3.998.000 in 1970 will be 448.000 out of 4,264,000 in 1990; an increase from 8.95% to 10,51%. (2018: This prediction now seems unrealistic, as the population grew to above 5.3 million by the end of 2017.)

[66]In Norway the maximum for males was in the 1950s, but there is no general decline since that – the pattern is more complex.

[67]Thus, if the population is declining in response to a deteriorating general social situation this must be seen as a lack of "state of social well-being" – even if those who remain live longer than ever. A decline could also be seen as positive if it were really a rational adaptation to scarce resources of several kinds.

[68]It is interesting to see that a number of prominent Norwegian physicians, (among them Hjort and Kringlen, quoted above) have come out with an important book *Atomkrig i medisinsk perspektiv* (Atomic warfare in medical perspective), University Press, Oslo, 1981, concluding that there is no defense, and hence only one possibility: "to prevent that the bombs are launched" – primary prophylaxis (p. 110 – from Hjort's conclusion).

enough destruction to create demand for reconstruction. The more pronounced the crisis, the more significant the competition for world market control, whether it takes the form of struggle against countries that partially withdraw from the world market such as socialist countries and/or self-reliant countries,[69] struggle with competitors, or efforts to dominate Periphery countries through new forms of division of labor. Norway is not a major country in this connection, but it is part of a system of countries that plays this kind of roles the first world. The resistance encountered when war is seen as even a major health concern is very similar to the resistance encountered in connection with the second and third clusters. And even more so for nuclear war although that resistance is now breaking down, as evidenced by the 1985 Nobel Peace Prize to the International Federation of Physicians against Nuclear War (IFPNW).

With this the content of the Table or "model" is exhausted. Let us now try to simplify the picture in a form that is more dynamic and also opens for some ways of answering the obvious question: what can be done about it! We shall use the idea of the four clusters, boiling down to one simple proposition: each social formation has its mortality/morbidity pattern; the one it deserves, so to speak.

One way of bringing together what has been said above about the four sectors of growth, distribution, formal and informal (actually only three variables as we assume, by and large, formal and informal to be complementary/competitive) would be as follows:[70]

[69] One might think of the early period for the Soviet Union, and of Burma of the 1960s.

[70] The assumption that the formal and informal sectors cannot both be strong or both be weak at the same time, may be true for Norway, but not in general so a more general model should include them as independent variables. In Johan Galtung, "Culture, Structure and Mental Disorder," Papers No. 42, Chair in Conflict and Peace Research, University of Oslo, it is argued that the combination "formal strong, informal strong" is what makes Japan "tick" in the sense of making it possible to have a very high rate of sustained growth and a very strong formal sector, yet low rates of mental disorder (but high rates of cardiovascular diseases and cancer, as they are also pollution and lack of exercise dependent, etc.).

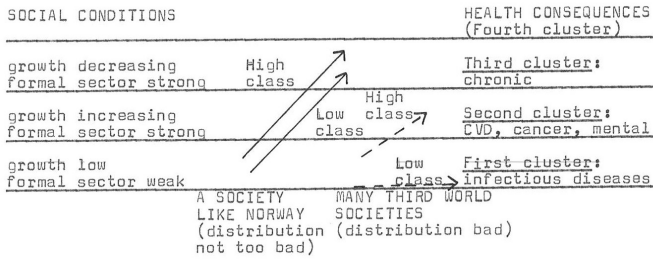


Figure 2.4: Social Conditions; Health Consequences

In this synoptic image "a society like Norway" is seen as having some class difference between high and low. But there is a pattern of distribution whereby "low" follows "high," with a certain time lag, through the social formations and health processes. What is referred to as "many third world societies," however, is very low on distribution, meaning that "high" goes through some of the same career patterns as first world societies whereas "low" remains behind in the first mortality/morbidity cluster – mainly with the problems unresolved. That pattern may be self-sustaining because "high" not only suffer from the most expensive diseases, but also control the resources stemming from increasing growth as well as the formal sector. Whether to be saved from a death from infectious diseases in order to die from cardiovascular diseases; to be saved from cardiovascular diseases in order to die from cancer; to be saved from cancer in order to be chronically ill, possibly also mentally ill to the point of administering one's own death from suicide; and ultimately to be saved from suicide by a nuclear war really is progress and hence something to be envied, is another matter. Many people would probably go by the number longevity increase regardless of type of mortality and level of morbidity. They will applaud the transition from the first to the second cluster, but less the one from the second to the third and certainly not from the third to the fourth.

What, then, can be done about this? Using the very simple model of these processes presented so far, the Table immediately identifies a number of obvious things to be done:[71]

- more exercise, walking, bicycling
- less alcohol, tranquilizers, drugs
- less or no tobacco, less sugar
- more natural foods
- living a less polluted life in general
- protection of nature as a health resource

These are ways of life or life style items accessible to those who can live substantial parts of their life in relatively unpolluted and natural environments – and in a healthy way as described. This would, for instance, be the *new rural population*, generally of upper or middle class origin, gradually transforming their secondary homes into primary homes – and the dwindling *old rural population*, before converting their primary homes into secondary homes (as they move into the cities). The pattern can be extended to others, however, by making private car transport prohibitively expensive (not only introducing car belts to cushion the impact of accidents); by subsidizing bicycles and building bicycle and walking paths; by making alcohol, tranquilizers and drugs relatively inaccessible and/or expensive and/or right out prohibited; by gradually outlawing tobacco and making sugar expensive (by adding a "health tax); and through the management af the environment.[72]

[71] See Dag Poleszynski, "The Concept of Overdevelopment: Theories, Causality and Indicators," CCPR Papers, University of Oslo, 1977.

[72] Personally we have doubts about such efforts. There probably has to be an internal decision to be healthy, a will, brought about by some level of consciousness, awareness – not only by a law and external sanctions, like fines for not using car belts. We also wonder whether exercise just for doing exercise has the same effect as exercise also to do something useful – as in the contrast between the two U.S. presidents' way of keeping fit, Carter's jogging and Reagan's wood-chopping. One day we may know more about these strange patterns of life in overdeveloped countries. On the other hand, it is also clear that external laws may on occasions build internal consciousness – especially in a law-abiding people.

And in addition to all of this, of course, there is the possibility of expanding primary, secondary and tertiary medical services, for diagnosis, possibly cure, and attention. Being highly capital absorbing there is the question of to what extent "a country like Norway" in economic crisis is in a position to do this. In Norway that economic crisis is masked, for the time being, by the oil in the North Sea with declining demand (possibly also declining supply), declining prices and declining dollar rates that may all change.

In short: change of life style; governmental action in health related sectors; and by strengthening further the formal health sector, moralism, laws and money. One should not scoff at these. The campaign against smoking, by the governmental council against Tobacco Damage (and propagated through the whole network of voluntary organizations in field of health)[73] has made active smoking a decreasing phenomenon in the population as a whole. The campaign also attacks passive smoking by starting outlawing smoking in public space, tobacco advertising is out, and there is action (including the Norwegian Medical Association) for an end to smoking in Year 2000.

The problem of class differences, because new ways of life usually first catch on more in higher than lower layers of society – the latter being more inclined to imitate what the higher layers had as a way of life some years ago – can to some extent be reduced if not eliminated by laws; and money can fill in some gaps. However, the key problem seems to be that such approaches are not yet far-reaching enough – at least not in terms of the type of analysis engaged in here.

That analysis takes in a number of other dimensions that go deeper than such external way of life expressions as little exercise, consumption of alcohol etc; in short the physical use of the body and control of what enters the mouth and ultimately lungs and stomach. One key additional factor is *stress*. There is a deep, inner *force motrice* in the competitiveness element built into the socio-cultural

[73] See Hans Prydz, "Røykebølgen er kulminert. Hva så?" ("The Smoking Wave Has Culminated, what Next?"), *Dagbladet*, 19 August 1981.

substratum,[74] and this is fed into a structure which is very macro, very *alpha*, (big and vertical structures) very little beta (small and horizontal structures).[75] There is pressure from the inside and from above to compete with one's peers. But it is given only to the relatively few to get jobs where they can do *work*, meaning something autonomous, self-managed, non-alienated; not merely making money. For many social reality consists of a poor micro environment combined with clientelism, observerism/ spectatorism and leisurism, and a choice between a boring job or no job at all.

This goes deeper than life style and touches the very roots of society. If these socio-cultural factors not only remain but even become stronger, is it not reasonable to believe that substitutes will be found for dangerous life style items given up? More particularly, is it not reasonable to believe that in such a society *to be declared ill is sometimes the only way out*? While ill there is freedom from competition (except to get healthy again, but one may also put that burden at the feet of the medical establishment). There is some care; and the patient is made a focus of attention; there is something reminiscent of a loving micro environment but also escape from family demands; while at the same time getting tax money back from the government! In short, in a maldeveloped social formation there are advantages to being ill which may go a certain way into explaining the third cluster. To be ill is certainly not only unwanted. Health is not always the top priority however much the health sector may believe, wish, this to be the case.

How, then, does the Norwegian health system today cope with the changing picture of health in the country? How much of the diseases of clusters 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

[74] McClelland in *The Achieving Society* does not place Norway particularly high on a world scale on his need for achievement, and Hendin, in *Suicide in Scandinavia*, New York, 1964, puts the competitiveness syndrome more on Sweden than on Norway. It is there, however.

[75] See Johan Galtung, "On Alpha and Beta and Their Many Combinations," in Maini and Galtung, eds., Visions of Desirable Societies, Pergamon Press, 1961, chapter 1.

of overdevelopment, has not yet been sorted out – in any country for that matter, to our knowledge. But the general trend seems to be to attribute less to longevity (and its concommitant, the cynical "one has to die from something"), and more to social phenomena in a broad sense, and this holds even more 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[76] 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 Tromsø) and one small municipality (Bugøynes). 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 all places. First, men (Oslo, Tromsø, Bugøynes) or men and women (the other regions) were called in by the National Mass Radiography Service (Statens Skjermbildefotografering) for examination of health status and risk factors. Second, the sample was picked in a certain age group each place (40-49 in Oslo, 35-49 in the three counties, all men in the small Bugøynes community). Third, several groups were compared with respect to risk factors, some of which were given advice concerning risk factors (smoking, diets, exercise) and others not. Fourth, results were compared over time. The intervention studies were not inter-sectorial 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,[77] cut down on

[76] 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.

[77] As stated earlier, this advice was not based on science.

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 behavior 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 behavioral 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 vs. 12 deaths and 24 infarctions).[78] 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, socioeconomic 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 or heart disease, and it has proven possible to influence dietary pattern and smoking behavior for a large number of people. The primary health care system has carried through the studies for the

[78]No doubt, the improvement was mainly due to reduction in smoking behavior.

National Mass Radiography Service, 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.[79] 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.

2.4. Conclusions: are there lessons to be learnt?

It is not obvious that there is that much to be learnt from Norway. The natural and cultural parameters were very significant, as pointed out, with a nature filled with well distributed positive health resources, and a culture stressing themes of health, individual responsibility, 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 an attainable value and the individual as responsible; with neither faith in progress nor in egalitarianism and compassion, the situation *must* be quite different. Much can still be done, but probably by remuneration or punishment, the carrot and/or the stick, rather than by focussing on persuasion and reason and self-interest, by and large characteristic of the

[79] Comment 2018: The reduction in serum cholesterol today seems unimportant, as other variables have much more predictive value, such as inflammation markers (micro-CRP), chronically high blood sugar (HbA1c) and serum triglyceride (TG) concentration in blood.

Norwegian approach. Unless the parameters are changed,[80] which is not easy. Norway was/is fortunate in this regard providing a matrix of positive factors within which action became more easy, less dramatic.

Improving the living standard, gradually removing dangerous occupations, including exporting them to other counties or leaving them to immigrant workers, and making sufficient surplus money and power available to the center to build 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 also took some time.

However, Norway's position, as a part of the economic center of the world, benefiting from international division of labor, 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 world Periphery. That country would have nobody to exploit, nobody to whom one can export dangerous occupations, and no models nearby demanding attention. The models would be a foreign element grafted onto the social body, sometimes even contrary to their own civilizational values. The exploitation would be inside the countries, not between, leaving dangerous occupations to "lower" classes/castes/groups.

As pointed out, one cannot say that there was a master plan, or even a master mind, behind the Norwegian health processes. Interministerial 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-

[80] 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 program.

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. And all the negative effects of all this activity came as a surprise, a shock.

If there is something to learn from Norway in a positive sense, it must be in the field of *distribution*; less in the sense of total equality, than in the sense of uplift of the poor. It seems always to 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 served 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 goal was a relatively low health distance from high to low 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 with relatively porous walls and floors, and a high level of communication, not only through mass media and primary groups in a "two step flow of communication," with particularly the mother resisting on brushing teeth and eating fruits and vegetables but using 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 said 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 is basic social change,[81] 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 also may have had its problems in terms of health because of the mobility in a porous society. People move to other places in the society. The generally high level of homology in Norway guarantees that things are done in the same way; but they

[81] See the preceding footnote.

find themselves in *different positions* in the same system. They may move up, but only on one rank dimension (e.g. education, not money or power): the problem of *rank disequilibrium* (even *rank incongruence*). Both conditions may be components of the general stress syndrome referred to and important in the understanding of second (and third) cluster diseases.[82] If this is a factor of major significance it might wane in importance when/if the population opts more settled geographically and socially.

If there is something to learn from Norway in a negative sense, it could also be in the field of *overdevelopment*, and in the lack of ability really to come to grips with the new mortality/morbidity picture; to understand it, 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.[83] 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 are 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.

[82] See Holme et al., *op cit.*, p. 50.

[83] And Norwegian researchers are certainly not alone in that.

Postscript: Some reflections on the past 40 years and the coming decades

We feel that the model delineated in Chapter 1, to a large extent based on the variables presented in Chapter 2, are as relevant today as in 1980. Our attempt was to better understand key aspects of health in a historical perspective, i.e. changes in longevity, mortality transitions over time, and morbidity prevalence. We immediately confess in having been misled in thinking that saturated fat and salt are two key components, which should be reduced in our diet for the benefit of improved health.

One reason for our mistake is that we did not think in terms of evolution of our species. Below we will give some comments on our new way of looking at health, based on evolutionary principles, which were not central to our understanding at the time of writing this book. We will also discuss some aspects of the development having taken place in Norway during the last 30+ years and give some predictions for the future.

Let us first try to give some answer to the questions "why", "what" and "who". Why do so many get sick and die, often prematurely? What can be done to reduce mortality and morbidity in the future? Who is responsible for so many not enjoying the best possible health?

Why we get sick and die prematurely

As the original project did not discuss all aspects of causality, we will add the following caveat: Longevity, the pattern of mortality and morbidity are a consequence of the degree to which we live in accordance with our genetic inheritance. Whenever there is a mismatch between our genetic past and the way we live, consequences

in terms of the tree variables discussed above will follow: We will live shorter than otherwise possible, will die from unnatural causes, and many will be chronically ill with afflictions "not meant to be".

As Randolph M. Nesse, M.D., and George C. Williams, Ph.D. so lucidly explained in Chapter 1 in their book *Why we get sick* (Random House, Inc., New York 1995), the disease pattern in modern societies can in a large part be explained by a mismatch between how "our bodies were designed over the course of millions of years for lives spent in small groups hunting and gathering on the plains of Africa" and our present life style.

Our predecessors lived as hunter-gatherers for several million years before the transition to an agricultural way of life started about 10 000 years B.C., and to an industrial way of life about 250 years ago. Given that our human ancestry evolved over a period of about 6 million years, the last 10 000 years as *Homo sapiens* only represent .2 percent of the period in which we had to adapt to a totally different environment. The last 250 last years represents only 2.5 percent of the latter period, and further fundamental changes have taken place since the 1950ies, when industrialized countries changed small and medium-sized farming to large-scale operations relying on chemical fertilizers, pesticides and herbicides. During recent decades, food became wrapped in plastics in which only parts of the animals we previously ate, were displayed.

In an evolutionary perspective, there is a fundamental "mismatch between our design and our environment". According to Nesse and Williams, it is for this reason that "much, perhaps most, preventable modern disease", arises. Of particular importance is that our dietary habits started to deviate from our genetic adaptation to our evolutionary past, starting with the agricultural revolution about 10,000 BC.

Ideology as a factor

To the evolutionary perspective presented above we would like to add by a *structural* view: There is no inherent reason why we should not have the wisdom to live according to our genetic

inheritance. However, the world is governed by *ideologies*, not by consideration to how we most efficiently could cover basic human needs for as many as possible. In fact, one pervasive ideology is making bad life style choices not only possible, but also become the dominating way in which Norwegians and other most other peoples behave. The free market ideology has dominated the Western world since the beginning of the industrial revolution. After 1990 former "communist" countries have followed the same market ideology, and have made their best to emulate and outcompete our economies for the same ends: more material wealth, more production and consumption of anything "the market" wants.

Key elements of the "free market" ideology is that production of any good should be left to anyone who wants to make them, since consumers will decide which products will survive by buying them or not. No priority is given to cover only *needs* and to avoid unnecessary, wasteful, polluting or health detrimental products; needs are deliberately confused with *demand*. At best, negative consequences may lead to an industry being regulated. One example is the tobacco industry, which was more or less unregulated for more than 100 years. However, in 1973 the Norwegian government was one of the first countries in the world to introduce legislation to limit smoking in public areas. There is now agreement that this initiative, which was followed up by more stringent regulations, has had a dramatic impact upon mortality and morbidity in Norway: deaths from lung cancer, chronic lung and heart disease have shown a dramatic reduction, especially in males. In addition to the tobacco law, more stringent regulation of industries has reduced environmental air and water pollution, and regulation of consumer products have had at least some impact on mortality and morbidity.

When it comes to the most important factor for health, what we eat, no restrictions have been imposed on the sale of refined sugar or other refined carbohydrates, the main culprits for bad health in most countries today. The government dietary recommendations fail to address at least 10 important issues, cf. http://www.orthomolecular.org/resources/omns/v14n10.shtml.

Most importantly, they do not *reflect on the extent to which our evolutionary past has adapted our genes to the dietary and life style of our past.* For instance, the government should take into consideration how evolution has shaped our hormone system, immune system, digestion and gut micro flora, and the problems involved in "old genes having met a new environment".

Structural impediments to change

When ideologies are built into social structures, changes become almost impossible for the following reasons: Ideologies become part of deep culture, being "natural" and "self evident" for most people, who consequently accept things as they are. In addition, interest groups solidify the structure. Within the area of health and disease, two sides become dependent upon status quo:

1. agents/actors who benefit from making products causing disease, and

2. agents/actors who benefit from taking care of disease.

Disease and disability is treated *downstream*, not upstream. People are given free choice in following a disease-promoting path, knowing that the treatment of illness downstream is provided by the state, financed by taxes on products and incomes. There is no law forbidding anyone to smoke, nor any financial disincentive for lung cancer or heart disease patients to be treated. Treatment at public hospitals is still free, although paid for by those not smoking or having unhealthy diets. This is one negative consequence of our social democratic ideology, which makes sure that everybody may be treated for almost any disease at a very low or no cost – in contrast with for instance the US, where illness may make the unfortunate without health insurance bankrupt.

The health system works the same in all Western countries: Disease is treated downstream with advanced technology, expensive drugs, complicated operations, giving symptomatic relief and replacing dysfunctional organs. Cancer treatment is based on cytostatic drugs, radiation therapy and surgery, not even supplemented by

natural therapies. Heart and circulatory disease are treated with synthetic drugs, bypass operations, heart transplants, etc.

Who stand to gain?

In Norway (as well as other countries), many seemingly stand to gain from the downstream ideology. The following list gives some examples of parties who benefit financially from this approach: one group is making us sick, the other is trying to remedy the situation while at the same time reaping profits.

An unholy alliance where "everybody" stands to gain

They make us sick	**They charge the sick**
Factory farming	The pharma industry
Chemical industry	Drug sales industry
Soft-drink industry (Coca-Cola, Pepsi)	Pharmacies, other drug sale outlets
Smoking/chewing tobacco/e-cigarettes	Medical equipment industry/sales personnel
Sugar, sweets, cakes, chocolate industry, bakeries	Health spas, resorts, tourist industry
The alcohol industry	Tax-free airports, alcohol importers/wine monopoly
Coal, oil/gas, nuclear energy/mining companies	Medical researchers, health bureaucrats
Military-Industrial Complex	Doctors, nurses, dentists, other health experts
Automobile industry	Engineers, economists

The "unholy alliance" makes it seem like "everybody" stands to gain, while in reality everybody come out losers: society becomes sicker, affecting everybody either directly or indirectly. Resources are wasted while doing the expensive job of cleaning up, instead of preventing ill health and premature deaths in the first place –

giving more people the opportunity to live longer, better and more productive lives.

Negative health trends since 1980 – and one positive

When we hade completed our analysis in 1982, we did not foresee the future negative effects which would follow in the aftermath of the 1980 USDA Dietary Guidelines for Americans,[1] which in essence was being implemented also in Norway. In fact, we thought that the food pyramid presented was science-based, later proven to have no scientific basis.[2] In spite of this fact, basically all official bodies and professional associations all over the world, including Norway, accepted the US recommendations as basis for their own health and nutrition policies.

At the time, we were impressed by the McGovern Committee´s 1977 US Senate hearings and subsequent recommendations in the report *Dietary Goals for The United States*, prepared by the staff of the Select Committee on Nutrition and Human needs.[3] We thought that the advice were well intentioned and represented the best knowledge available. Only later we learned that the committee conclusions were biased in favor of vegetarianism

The *first* goal focused on energy balance and recommended that all Americans, to avoid overweight, should consume only as much energy as expended. *Secondly*, for the nutrient-based goals people should increase their consumption of complex carbohydrates and other "naturally occurring sugars", reduce their consumption of refined sugars, total fat, saturated fat, cholesterol, and sodium. *Thirdly*, for the food-based goals, the Committee recommended

[1]Department of Health and Human Services and US Department of Agriculture. Dietary Guidelines for Americans. Washington, D.C., 1980. https://health.gov/dietaryguidelines/1980thin.pdf (downloaded June 28, 2018)

[2]Minger D. Death by food pyramid. Malibu, CA: Primal Blueprint Publishing, 2013.

[3]McGovern G et al. Dietary Goals for the United States. Second edition. Select Committee of Nutrition and Human Needs. United States Senate, Washington, D.C.: US Government Printing Office, December 1977. https://health.gov/dietaryguidelines/2015-BINDER/meeting1/historyCurrentUse.aspx (downloaded June 27, 2018).

that Americans increased their intake of fruits, vegetables and whole grains, and decreased the intake of

- refined and processed sugars and foods high in such sugars;
- foods high in total fat and animal fats, and partially replace saturated fats with polyunsaturated fatty acids;
- eggs, butterfat, and other high-cholesterol foods;
- salt and foods high in salt.

People were also encouraged to "choose low-fat and non-fat dairy products instead of high-fat dairy products (except for young children)".

These recommendations were also adopted by the Norwegian Government, which for almost 40 years has repeated to above recommendations in a number of documents, which basically have repeated the same message as the McGovern Committee. The most comprehensive report was written by a working group including four professors from the University of Oslo, hand picked by the National council for nutrition in 2011 at the Directorate of Health.[4]

Ever since the unilateral adoption of the US Dietary Goals from about 1980 there has been a heated debate on the merits of the recommendation, but academics outside of the system have not been able to modify the advice with the exception of the advice not to eat eggs – one of the most nutritious foods in the universe!

In 2014 we also learned from the UK nutrition researcher Zöe Harcombe´s PhD dissertation that at the time when the US and most other countries in the world embraced the above recommen-

[4]Blomhoff R, Andersen LF, Iversen PO, Smeland S et al. Dietary advice to promote public health and prevent chronic illnesses. Methodology and scientific knowledge base. Oslo: National Council for Nutrition, 2011. https://helsedirektoratet.no/Lists/Publikasjoner/Attachments/400/Kostrad-for-a-fremme-folkehelsen-og-forebygge-kroniske-sykdommer-metodologi-og-vitenskapelig-kunnskapsgrunnlag-IS-1881.pdf

dations, no scientific evidence at all existed in their support.[5,6] A number of well-researched books during the last decade have shown beyond doubt that the advice to keep down the intake of fats and saturated fatty acid, to avoid cholesterol-containing foods like eggs, to eat more grains and other starchy foods, cut down on the intake of meat and salt, simply have no scientific basis.[7] Neither has the idea that vegetarian diets, in particular vegan diets, are healthier than a mixed diet based on animal products – in fact, the opposite is well documented to be true.[8]

One positive change, which dramatically has improved the health situation in Norway since 1973, has been the reduction in cigarette

[5]Harcombe Z, Baker JS, Cooper SM et al. Evidence from randomised controlled trials did not support the introduction of dietary fat guidelines in 1977 and 1983: a systematic review and meta-analysis. Open Heart 2014; 2: e000196. http://openheart.bmj.com/content/2/1/e000196.full.

[6]Harcombe Z. An examination of the randomised controlled trial and epidemiological evidence for the introduction of dietary fat recommendations in 1977 and 1983: A systematic review and meta-analysis. UK: Columbia Pubslshing Ltd., 2016.

[7]Taubes G. Good calories. Bad calories. Challenging the conventional wisdom on diet, weight control, and disease. New York: Alfred A. Knopf, New York 2007; Groves B. Trick and treat. How "healthy eating" is making us ill. London: Hammersmith Press Limited, 2008; Volek JS, Phinney SD. The art and science of low carbohydrate living. Charleston, SC: Beyond Obesity, LLC, 2011; Volek JS, Phinney SD. The art and science of low carbohydrate performance. Charleston, SC: Beyond Obesity, LLC, 2012; Teichholz N. The big fat surprise. Why butter, meat, and cheese belong in a healthy diet. London: Scribe Publications Pty Ltd., 2014; Feinman RD. The world turned upside down: The second low-carbohydrate revolution. Brooklyn, NY: NMS Press, 2014; Rosch PJ, ed. Fat and cholesterol don´t cause heart attacks. And statins are not the solution. UK: Columbus Publishing Ltd, 2016; Taubes G. The case against sugar. London: Portobello Books, 2017; Dinicolantonio J. The salt fix. Why the experts got it all wrong and how eating more might save your life. London: Little, Brown Book Group, 2017.

[8]Price WA. Nutrition and physical degeneration. 8th edition. La Mesa, CA: The Price-Pottenger Nutrition Foundation, Inc.™, ©1939, 1934 by Weston A. Price; 18th printing 2009; Keith L. The vegetarian myth. Food, justice, and sustainability. Oakland, CA: PM Press, 2009;Kahn MJ. Vegan betrayal. Love, lies, and hunger in a plants-only world. Boulder, CO: Little Boat Press, 2016.

smoking:[9] from 53% in 1973 to 42% in 1980, 37% in 1990, 31% in 2000, via 19% in 2010 to only 11% in 2017.

Bad advice caused public ill health

Given that the public was told to eat less fat, in particular saturated fats, and more starchy foods, evidence shows that the 1980s were the start of a trend which still prevails, of increasing illness related to the "mismatch between our evolutionary inheritance and our present lifestyle". The dire consequences have been seen in practically all countries having followed the US lead: a steady increase in overweight and obesity, diabetes type 2, polycystic ovary disease, impotence, blindness, gangrene, Alzheimer´s disease (diabetes type 3), high blood pressure, reduced fertility, many cancers and mental illness, a continued high rate of circulatory disorders (in spite of smoking cessation in many countries), etc. – in total more than 100 unwanted and unnecessary ailments.[10] High-carb diets may to a large extent be seen as a compensation for the benefits achieved by less smoking, thus perpetuating many illnesses rarely or never seen in traditional[8] or hunter-gatherer societies.[11:307–36]

As Cape Town professor Tim Noakes has documented in a 2017 book presenting scientific evidence for the benefits of high-fat, low-carbohydrate diets, at the core of the predominant illnesses during the last decades lies insulin resistance caused by to high intake of carbohydrates in the diet, and not the intake of salt, fat or saturated fatty acids.[11] Noakes became world famous when he publish the bestselling book *Lore of running*,[12] where he advised his readers to carbohydrate load in order to perform better, an advice he in 2012 publically apologized for in his book *Challenging*

[9]Percentage of daily smokers aged 16–74 years in Norway 1973–2017. https://www.fhi.no/globalassets/dokumenterfiler/rapporter/2018/vedleggstabeller_tobakk_i_norge.pdf (downloaded June 28, 2018).

[10]Poleszynski DV, Mysterud I. Syk av sukker – frisk av fett. (Sick from sugar – healthy on fat) 2. utg. Oslo: Gyldendal Norsk Forlag AS, 2014.

[11]Noakes TD, Sboros M. Lore of Nutrition. Challenging conventional dietary beliefs. Cape Town, South Africa: Penguin Random House, 2017.

[12]Noakes T. Lore of running. Cape Town: Oxford University Press South Africa, 1985, 1986, 1991, 2001; 4th edition 2003.

beliefs.[13] After his "conversion" to high-fat diets in 2010 he also co-authored *The real meal revolution*,[14] which was released in November 2013 as a practical guide to high-fat, low-carb living. The book became an all time best seller in South Africa, and Noakes became a household name.

Some predictions for the future

Norwegian dietary and health policies are to a large extent governed by what our "big brother" USA is doing. With winds of change sweeping over the US and many other countries, such as South Africa, Norwegian officially appointed "experts" must find ways in which they acknowledge having been wrong without losing face. We predict that this change will not come easily, but when happening, the basis will be laid for a discontinuation of one health problem following another in endless cycles. By nature, man is healthy and need not suffer from cancer, cardiovascular disease, obesity, diabetes type 2 or Alzheimer´s diseases.[15] It is within our power to eradicate these "diseases of civilization" and achieve a much higher level of health for almost all. One positive trend has been the reduction in sugar consumption, including the intake of sugared soft drinks – however, curbed by an increased border trade of sweets.[16]

One necessary condition for changes in government advice to happen is that "experts" in the field of nutrition and health retire and that they are replaced by freely thinking individuals. Another condition is that people start taking charge of their own lives and

[13]Noakes TD. Challenging beliefs: Memoirs of a career. Cape Town, SA: Random House Struik (Pty) Ltd., 2012.

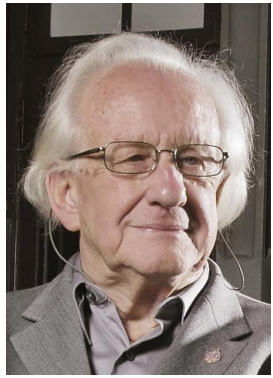
[14]Noakes TD, Creed SA, Proudfood J, Grier D. The real meal revolution. Changing the world, one meal at a time. Cape Town, SA: Quivertree Publications, 2013.

[15]Berger A. The Alzheimer´s antidote. Using a low-carb, high-fat diet to fight Alzheimer´s disease, memory loss, and cognitive decline. White River Junction, V: Chelsea Green Publishing, 2017; Bredesen DE. The end of Alzheimer´s. The first programme to prevent and reverse the cognitive decline of dementia. New York, NY: Penguin Random House LLC, 2017.

[16]Faltin T. Slik fant de smutthullet for godteri (This is how they found the loophole for sweets). December 12, 2017. https://www.dagbladet.no/mat/slik-fant-de-smutthullet-for-godteri/68948135

learn how they themselves may change their future. Dare we be optimistic enough to suggest that the current dietary and health dogmas will yield to a new understanding in as little as 5–10 years?

About the authors



Johan Galtung, a professor of peace studies, was born in 1930 in Oslo, Norway. He is a mathematician, sociologist, political scientist and the founder of the discipline of peace studies. He founded the International Peace Research Institute, Oslo (1959), the world's first academic research center focused on peace studies, as well as the influential Journal of Peace Research (1964). He has helped found dozens of other peace centers around the world.

He has served as a professor for peace studies at universities all over the world, including Columbia (New York), Oslo, Berlin, Belgrade, Paris, Santiago de Chile, Buenos Aires, Cairo, Sichuan, Ritsumeikan (Japan), Princeton, Hawai'i, Tromsoe, Bern, Alicante (Spain) and dozens of others on all continents. He has taught thousands of individuals and motivated them to dedicate their lives to the promotion of peace and the satisfaction of basic human needs.

He has mediated in over 150 conflicts between states, nations, religions, civilizations, communities, and persons since 1957. His contributions to peace theory and practice include conceptualization of peacebuilding, conflict mediation, reconciliation, nonviolence, theory of structural violence, theorizing about negative vs. positive peace, peace education and peace journalism. Prof. Galtung's unique imprint on the study of conflict and peace stems from a combination of systematic scientific inquiry and a Gandhian ethics of peaceful means and harmony.

Johan Galtung has conducted a great deal of research in many fields and made original contributions not only to peace studies but also, among others, human rights, basic needs, development strategies, a world economy that sustains life, macro–history, theory of civilizations, federalism, globalization, theory of discourse, social pathologies, deep culture, peace and religions, social science methodology, sociology, ecology, future studies.

He is author or co–author of more than 170 books on peace and related issues, 96 as the sole author. More than 40 have been translated to other languages, including 50 Years-100 Peace and Conflict Perspectives published by TRANSCEND University Press. Transcend and Transform was translated to 25 languages. He has published more than 1700 articles and book chapters and wrote over 500 weekly editorials for TRANSCEND Media Service-TMS, which features solutions-oriented peace journalism.

In 2008 he founded the TRANSCEND University Press and he is the founder (in 2000) and rector of the TRANSCEND Peace University, the world's first online Peace Studies University. He is also the founder and director of TRANSCEND International, a global nonprofit network for Peace, Development and the Environment, founded in 1993, with over 500 members in more than 70 countries around the world. As a testimony to his legacy, peace studies are now taught and researched at universities across the globe and contribute to peacemaking efforts in conflicts around the world.

He was jailed in Norway for six months at age 24 as a Conscientious Objector to serving in the military, after having done 12 months of

civilian service, the same time as those doing military service. He agreed to serve an extra 6 months if he could work for peace, but that was refused. In jail he wrote his first book, Gandhi's Political Ethics, together with his mentor, Arne Naess.

As a recipient of over a dozen honorary doctorates and professorships and many other distinctions, including a Right Livelihood Award (also known as Alternative Nobel Peace Prize), Johan Galtung remains committed to the study and promotion of peace.

Dag Viljen Poleszynski was born in Kristiansand, Norway, on September 19, 1946. He studied business administration in Oslo 1967–1969 and languages, economics and social sciences at The University of Geneva 1969–1970, finance, investment and banking (M.Sc.) and organization theory and management (MBA) at The University of Wisconsin, 1971–1972. In 1982–1987 he completed a Master´s Degree in nutritional physiology at the University of Oslo, and in 1999 a Ph.D. on medical sociology at the University of Tromsø.

Since 1987 he has worked as an independent research and lecturer after having worked as a research assistant to Johan Galtung at The International Peace Research Institute of Oslo (1974–1978) and as a researcher in the Tokyo-based United Nations University project "Goals, Processes and Indicators of Development" led by Galtung in 1979–1982, where he coordinated working groups on energy and nutrition.

Poleszynski has authored/co-authored 49 books in four languages and published about 1400 popular science articles and 80 research articles, and been on the editorial board of several journals, including editing the a popular science nutrition magazine 2002–2010. In 2010 he established a non-profit foundation for human development, publishing a popular science magazine, which under his editorship has published 66 editions covering all aspects of health and human development.

He took the initiative to and co-established the voluntary organizations Norwegian Association for Holistic Health (1988), Free Health Choice (1997) and Dietary reform by overweight and diabetes (2007), besides participating in a number of other voluntary organizations within the field of health and human development. He was awarded honorary memberships in three Norwegian voluntary organizations and joined the Editorial Board of Orthomolecular News Service in January, 2018. He has three grown children and seven grandchildren and lives in Jar, outside of Oslo, where he works full time editing the magazine.

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