

ECOLOGY 2000

The changing face of Earth

Edited by

SIR EDMUND HILLARY

First published in 1984 by Michael Joseph Ltd,
44 Bedford Square, London WC1

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This book was devised and produced by
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DESIGN AND ART DIRECTION: John Strange

PICTURE RESEARCHER: Sarah Waters

PICTURE ADVISOR: Tom Burke

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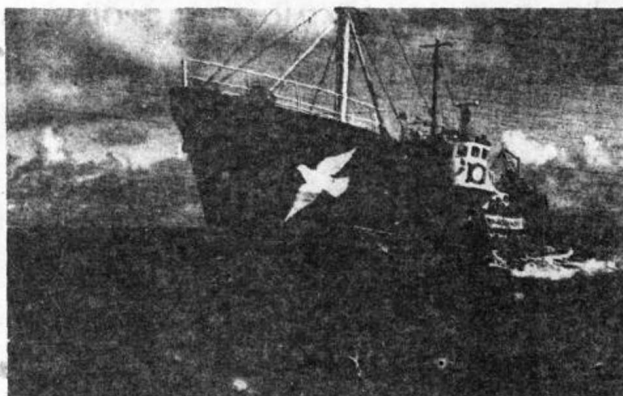
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SIR EDMUND HILLARY

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Michael Joseph, London

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Chapter 1

PART 1: GROWTH

Learning About the Problems

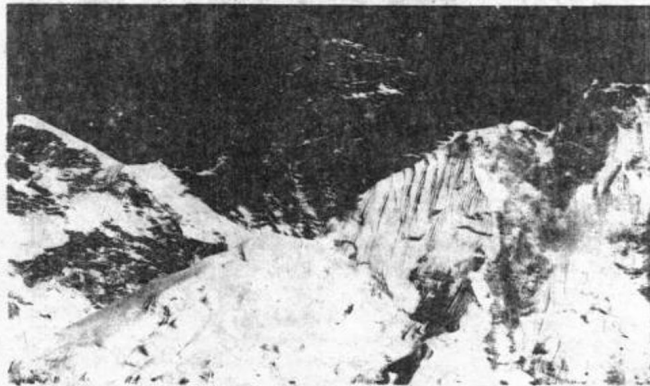
I have been lucky enough over the years to be involved in a number of adventures – in the Himalayas, the Antarctic and elsewhere. But slowly my values changed – success on an adventure was still important but I had an increasing interest in human relationships. I became involved in assistance programmes in Nepal – building schools and hospitals, bridges and water pipelines. Success on a mountain was no longer the only thing that mattered; to help others to improve their way of life became a prime target. And so it has gone on – still the odd adventure... jet boats up the Ganges; through Tibet to the east face of Everest; backpacking on Baffin Island in the Canadian Arctic... but more and more I've been getting involved with people and their problems – and very satisfying it has proved to be.

As my interest in people has grown so too has my awareness of our natural environment and the importance of its conservation. After all, people and their environment are very closely related.

Thirty years ago conservation had not really been heard of. On our 1953 Everest expedition we just threw our empty tins and any trash into a heap on the rubble-covered ice at Base Camp. We cut huge quantities of the beautiful juniper shrub for our fires; and on the South Col at 26,000 feet we left a scattered pile of empty oxygen bottles, torn tents and the remnants of food containers.

The expeditions of today are not much better in this respect, with only a few exceptions. Mount Everest is littered with junk from the bottom to the top.

Since those years I have spent a great deal of time in the Himalayan Kingdom of Nepal. I have learned to understand the people, to enjoy their



friendship and cheerfulness, and to gain an appreciation of some of their problems. One thing that has deeply concerned me has been the severe destruction that is taking place in their natural environment.

Population pressures are forcing the farmer higher and higher up the mountain-side to find land where he can plant his crops. A large proportion of the forest cover has been destroyed in order to clear land for cultivation, to supply the local people with fuel and to produce firewood

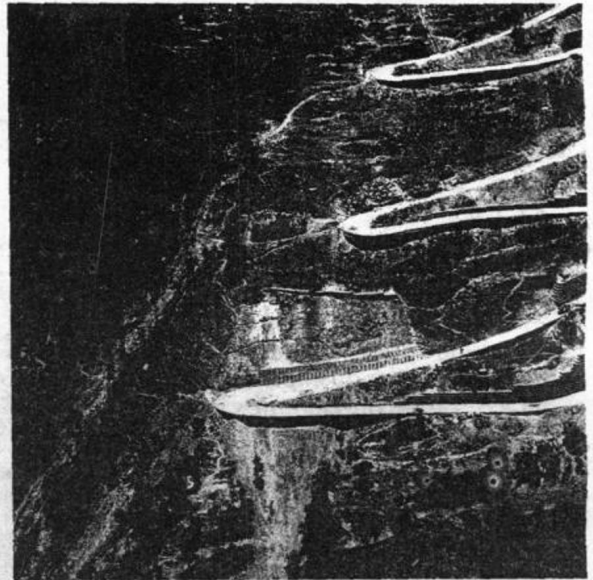
Left: The scale of man's impact on his home planet is clear from this satellite photograph of the Libyan desert. The red dots are the vegetation from irrigation schemes, which are slowly making this desert at least bloom again.

Top: Sir Edmund Hillary

Above: Mount Everest

for trekking and climbing groups. The Nepalese are experts at ingenious and laborious terracing of their hillsides but when the monsoon rains come the surface soil is washed down into the streams, pours into the great Ganges river, flows out into the Bay of Bengal, and is finally deposited in the Indian Ocean. That valuable soil will never return.

The damage is not only being effected by the local people; foreign and international agencies are perhaps unwittingly causing their share as well. I have walked in from Kathmandu to the Mount Everest region perhaps thirty times and always enjoyed it, but a trip I made in March 1982 was different in many ways. We travelled by truck down the long valley to Dhologhat and crossed the big bridge built by Chinese engineers. Then it



was a slow climb over the ridge and down to the road beside the Sun Kosi river. We bumped our way up the valley, crossing many washouts and giant slips where the steep slopes were subsiding into the river. Then we reached the depressing shanty town of Lamsangu.

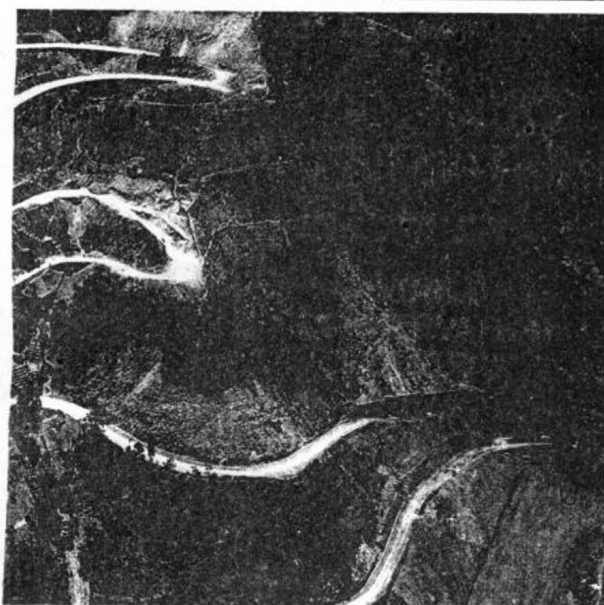
Now for the first time I crossed the new Swiss bridge over the Sun Kosi river and climbed slowly to the east up the new Swiss road. It was a fantastic route – very steep and difficult. We climbed higher and higher up over a steep pass then down again for thousands of feet, winding around sharp corners and very rough sections above steep drops. After seven hours of spectacular driving we reached our destination at Kirantichap and here we pitched our tents.

I found Kirantichap completely changed. It used to be a tiny bazaar in a dip in the ridge with several huge pipal trees shading it. It had always been a pleasant place to camp, although it had brisk winds at times. The trees were still there and so was the wind but there were now many houses and a big bazaar. The construction work on the road had produced a dusty desert and strips of slums. The whole mountainside ahead of

8

Hundreds of millions of tonnes of vital soil are washed off Nepal's hills each year. It is carried as silt down the Ganges where it often forms new islands. The island arrowed in the photograph is absent from maps made in 1971.

Roads are essential for development: they allow village products access to markets, and essential tools and machinery to be brought in. But they also encourage settlement on ecologically fragile land and do much direct damage to the environment through which they pass.



us up to Namdu and beyond – once so beautiful – was now terribly scarred from the work on the road. It was a depressing sight. The Swiss had gone to great trouble to build rock-retaining walls but on these steep loose hills the erosion would still be substantial. The engineering was superb but what possible use could the whole project have? Perhaps there were minor economic advantages for the area – no doubt food could be more easily transported out of Kathmandu – but what of the destruction of the mountainsides, the building of slums alongside the road, the devastating effect on the natural beauty of the area? Were the Swiss, I wondered, proud of what they were doing to this once stable and beautiful countryside?

Six days' walk further on we headed up the Solu valley taking the new high route above Beni. The whole beautiful Ringmo valley was scarred with a big new track, and the long hill down to Manedingma dropped steeply through wide stretches of destroyed forest. Why, I kept asking myself – the old road was nearly as short and very stable – why this obsession with destruction? There was only one reason. The United Nations were

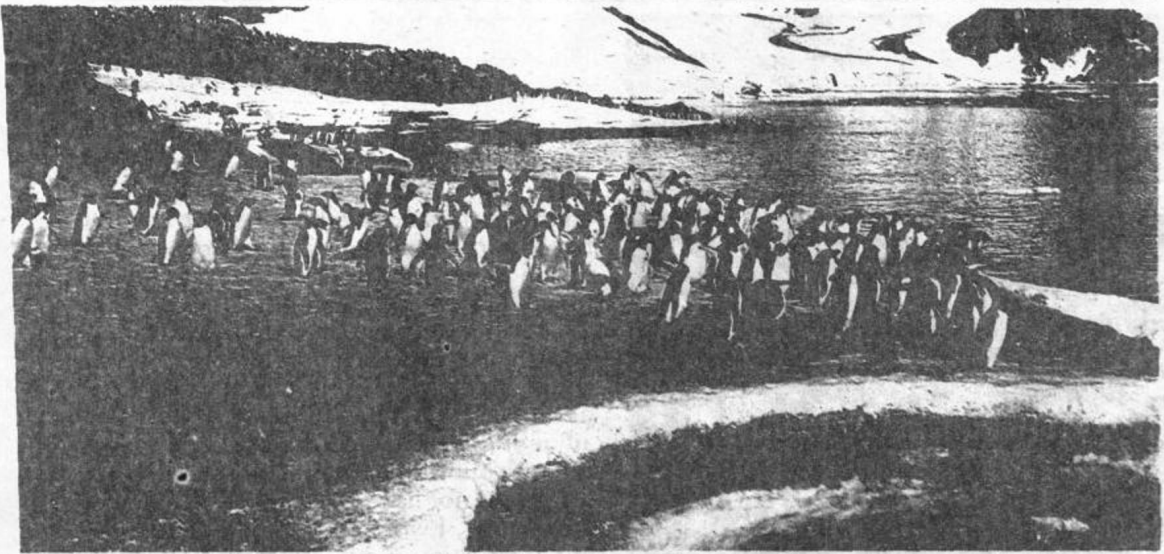
largely financing this work by donating imported grain and cooking oil. Without their support it would not have happened.

All the way up the Dudh Kosi river the track had been 'improved', with terrible scars and long stretches of eroded soil to show for it. Maybe the walking was a little easier and maybe the scars would heal again, but meanwhile vast quantities of soil would have washed out into the Indian Ocean and been lost for ever.

So I have become a keen and, I hope, a practical environmentalist. I am concerned not only about the deterioration of our environment in the affluent developed countries but in the poorer countries as well – those that simply do not have the finance to help themselves. I worry about the pollution in our great cities and in our many waterways. I even worry about the Antarctic and about the potential dangers facing that great remote continent.

I have spent much time in the Antarctic and I was last in McMurdo Sound in January 1982. I discovered that all the talk was about the oil potential and the possible mineral resources, and about farming the krill. Only the difficulties of access have prevented an even greater concentration on commercially oriented investigation and exploitation – seeking out some of the last miserable remnants of oil under the surface of the Earth. I heard little about the protection of this superbly beautiful environment, although much good work has been done by scientists in the past and is still being done. I dread the thought of drilling down through the moveable pack ice, with the possibilities of an enormous oil spill and the destruction of millions of Antarctic creatures.

The Antarctic Treaty has produced a demilitarized, unpolluted, wildlife sanctuary dedicated to free scientific co-operation. But now major political problems are looming. The possibility of economic development has turned the attention of many countries to the Antarctic, countries which have not signed



the Antarctic Treaty. Conservation could become a minor priority, in the search for wealth. When I was deeply involved in Antarctic exploration I regarded the South Pole as a continent of science and adventure; the world needs places like that and I hope it stays that way.

In June 1982, in London, I attended a Conference on the Human Environment organized by the United Nations Environment Programme. It was attended by distinguished scientists and administrators from all over the world and I found it a remarkable although rather terrifying experience. I am neither a distinguished scientist nor an administrator – I spent my early years as a simple bee farmer in New Zealand – but no one who has any feeling for the beauty of nature or any concern for his fellow humans could have been unaffected by what we heard.

Scientists told us the grim story of acid rain – of how in Scandinavia and Canada in particular thousands of lakes and great areas of soil had been poisoned by sulphurous fumes released into the atmosphere when fossil fuels were burnt.

I learned with concern of the carbon dioxide build-up in the atmosphere. There is still debate on the ultimate effects of

this, but one thing is clear – the concentration of carbon dioxide in the atmosphere is increasing because of the burning of fossil fuels, deforestation and changes in land use. Dr Robert White, of the University Corporation for Atmospheric Research in the United States, forecast that in 60 years' time the amount of carbon dioxide in the atmosphere will have doubled and the average world temperature will have increased by four or five degrees. This, he believed, will melt sufficient Antarctic ice to raise the level of the ocean by fifteen feet, flooding many of our great cities.

There were even more depressing reports about situations with which I was more familiar. Desertification of the world's arable land threatens agriculture on every inhabited continent. Desertification, we were told, means any ecological change that saps a land of its ability to sustain agriculture or human habitation. It is perhaps seen at its worst in Africa. It can be controlled, the experts assured us, but only through substantial international effort: making changes in herding practices and land use, building fences, developing firewood alternatives, stabilizing sand dunes with hardy vegetation and so on. Effective action on a



global basis, we were told, would require a commitment of several billion dollars a year from now to the end of the century. Inevitably it was pointed out that if only a tiny fraction of the world's armament bill was devoted instead to the environment then the world could bloom again.

One of the most devastating effects upon life on our Earth has been the enormous destruction of tropical rain forests, which is largely due to population growth but also aggravated by aggressive timber harvesting. The heavy concentration of the world's wild plant and animal species in tropical rain forests, I learned, meant that up to half of the world's genetic diversity is concentrated on six per cent of its land surface, and it is believed that one million species could be extinct by the end of the century.

A little time after the UNEP Conference I was encouraged to read a speech by Mrs Indira Gandhi, Prime Minister of India, calling for firm steps to save the environment in her great country. Opening the State Forest Ministers' Conference, she said that there is 'collective anxiety' in her country over the rapid depletion of forest resources. 'Yet', she told the Conference, 'when it comes to taking concrete decisions either to stop

the cutting of trees or to preserve endangered species of animals or to put down poaching or smuggling of rare species, we waver.'

She wanted the avarice of the contractor to be recognized and dealt with firmly. Mrs Gandhi said that some hard measures needed to be taken, like a ban on the felling of trees in all the critically affected areas like hillslopes, catchment areas and tank-beds.

Many other topics were discussed during the Conference on the Human Environment, including the disposal of atomic waste, and even war itself. Each seemed more devastating than the last and it was hard to believe that humans could be so improvident and stupid.

After the first day of the Conference I walked rather sadly out of the Greater London Council Hall and into bright sunlight from a clear blue sky. With rising spirits I strolled across the green grass and superb trees of St James's Park. The world was still very beautiful, I told myself, whatever the future might hold. Every effort must be made to preserve it.

The second day of the Conference was largely devoted to discussing what practical action could be taken to alleviate these environmental problems. The International Conference on the Environment came to certain major conclusions: that the problems were severe and required urgent action and that time was desperately short; that the task could only effectively be tackled on a global scale and would require very substantial sums of money; and that governments would be reluctant to undertake such dramatic action unless they were pressured by strong and well-informed public opinion. It was felt that the NGOs (the Non-Government Organizations) had a very important role to play in the education of the public and in pressuring governments. People cannot push for action unless they know what the problems are. It was in response to the Conference's call for a clear presentation of information to ordinary people that this

The atmosphere has no frontiers — it is a 'resource' which is held in common by all mankind. There is growing evidence (see Chapters 7 and 10) that human activities are polluting the atmosphere on a global scale.

book, *Ecology 2000*, was first planned.

At the conclusion of the Conference the distinguished members were each asked a simple question: 'Are you optimistic or pessimistic about the future of our world?' Hardly one person in this international gathering was completely optimistic. All had varying doubts and concerns. But not one person was completely pessimistic either.

I came away from the Conference with the firm belief that the future is entirely in our own hands. We can make the world what we will, a paradise for all or a barren desolate globe spinning endlessly through space.

But the problems are certainly enormous. Regional and commercial interests exert tremendous pressure to mould government views, often with little interest in the long-term view and the welfare of future generations. Our only hope for the future must lie in a strong and well-informed public opinion and in those devoted people who work so energetically to protect our world from unnecessary exploitation and pollution. In the long run it is all up to us!

Most of us are unable to have a major impact on the world scene. Individually we can only try to deal with the challenges that arise in our own particular field, but even this can be well worth while. When I first visited Mount Everest in 1951, what a beautiful place it was. I can remember crossing the pass above Chaunrikarka and looking for the first time into the upper reaches of the Dudh Kosi river and seeing the sacred peak of Khumbila towering up in the heartland of the Sherpas. We climbed through dense pine forest up the long steep hill to Namche Bazar. The whole region was dense with greenery. Below the village, giant conifers soared, framing the snow and ice peaks that lined the other side of the valley. We climbed to Thyangboche Monastery at 13,000 feet; it was clothed in forest and surrounded by a ring of superb mountains.

We reached Pangboche village, with

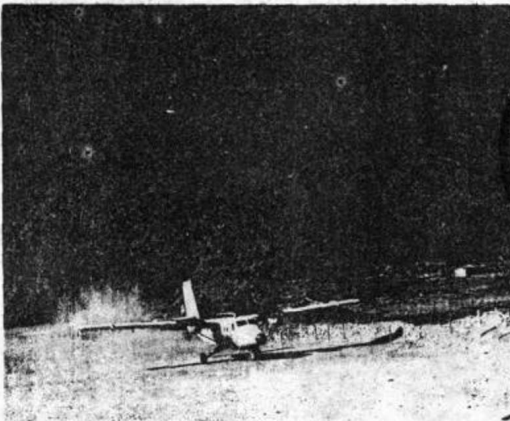
its ancient monastery and its tall gnarled juniper trees. Most of the junipers from here on were shrubs, but in places the forest remained, and there were ample supplies of firewood. When we turned into the Khumbu Glacier valley the forest had disappeared, but the dark green juniper bushes covered the slopes and yaks grazed on the dry grass. It was incredibly beautiful and dramatic.

About 25 years later I repeated this very same journey. The valley of the Dudh Kosi river was still very beautiful, but the forest was woefully thinned by the axes and saws of the Nepalese who had been cutting timber for buildings. The trees below Namche Bazar had been scarred by the heavy knives of Nepalese porters taking branches and bark for fuel and gummy heartwood for torches and lighting fires. The forests around Thyangboche had lost many of their mighty trees, and the Pangboche area was almost bare. Up the Khumbu Glacier valley there was hardly a juniper to be seen.

What had happened to produce such a change? Our climb of Mount Everest brought more mountaineers of many nations eager to attain the top of the world. Fuel for their expeditions rapidly exhausted supplies of the widespread juniper – but at first the forests themselves were left almost untouched.

In a way, I was initially responsible for the subsequent damage to the forests. In the early sixties I made an effort to assist my friends the Sherpas by building schools, hospitals, bridges and water pipelines. To help in the transport of building materials we constructed an airfield at Lukla. But the airfield had an unexpected effect: it gave much easier access to the Everest area, and increasing numbers of trekkers and tourists accelerated the demand for fuel.

The 1970s were a period of tremendous expansion in the Khumbu. Five thousand foreigners a year were now visiting the Everest region and for each foreigner it was estimated there were three Nepalese employees from outside



the area. Each year 20,000 people were coming into the Khumbu – a considerable burden on the 3,000 members of the local population. Dozens of small hotels were constructed. Tea shops and beer shops abounded. The weekly bazaar at Namche was thronged as hundreds of Nepalese vendors offered food and fuel to visitors and their porters. The forests suffered as the demand for firewood and building timber escalated.

By 1973 I was sure that some sort of

control would have to be exerted if the Khumbu District were not to become a treeless desert. The Khumbu was such a remote area that Government administration was not only difficult but almost non-existent. Government funds were very hard to come by. The answer seemed to be the establishment of some form of National Park, initially financed by foreign aid.

In October 1973 I talked with the United Nations advisor on forestry in Kathmandu who had already been discussing the possibility of an Everest National Park with the Director of Nepal's small National Park Authority. It was felt that outside help was needed. New Zealand was a country with a topography similar to Nepal's and a well developed National Park system. Would New Zealand, they asked me, be prepared to help get the Sagarmatha (Everest) National Park established? I had no idea, but I approached the New Zealand Ministry of Foreign Affairs and, astonishingly, got immediate action. A three-man mission was sent to Nepal and

Above: improved communications, including the building of this airport, have brought economic benefits, but at a growing ecological price.

Top: today the forests that surrounded Namche Bazar 30 years ago have all gone, used for firewood and buildings. Without the protection of the cover, the rains wash the soil from the steep slopes.

reported favourably. In 1975 the first New Zealand National Park advisor moved up to Namche Bazar and the Sagarmatha National Park was under way.

An initial problem was the grave doubts that the Sherpas themselves had about the National Park. They worried that it might restrict their firewood supplies and limit their yak grazing pastures. There were even rumours that they might be moved out of the Park to leave it to the trees, wild animals and tourists, as had indeed happened in another Nepalese National Park. In the 1976 election of the local village councils, all the chief candidates were against a National Park. An old friend of mine, Khunjo Chumbi, was aware of my original support of the National Park and commented in his political speeches that 'Hillary first brought sugar to the lips of the Sherpas, but he is now throwing chili in their eyes'.

I had to agree that his concern was valid.

Initially the New Zealand wardens concentrated rather strongly on building Park headquarters and other structures, but slowly they came round to the view that the welfare and co-operation of the Sherpas were equally important, and a much happier balance was achieved. By the time the New Zealand five-year aid programme was completed some excellent work had been done and several forestry nurseries had been established. Sherpa Mingma Norbu, who spent five years training in New Zealand, was made chief warden of the Park and carried on the job very effectively.

With the withdrawal of New Zealand there was the major problem of how the forestry programme could be financed. In the end my Himalayan Trust agreed to contribute up to 15,000 dollars per year which Mingma Norbu felt was initially



adequate for re-afforestation purposes. Major change is inevitably slow, particularly at altitudes above 12,000 feet, but improvement and change there have undoubtedly been. The birds and animals in the Park are increasing rapidly again. There are now many forest nurseries growing vigorously, and young trees are being planted out in extensive numbers. Five hundred goats, which had been recently introduced to the Park and were doing considerable damage to young growth, have been gathered up and removed from the area. It will take a long time for the Khumbu to become as it was thirty years ago but at least progress is being made and that is the best we can hope for.

Environmental problems are really social problems anyway. They begin with people as the cause, and end with people as victims. They are usually born of

ignorance or apathy. It is people who create a bad environment – and a bad environment brings out the worst in people. Man and nature need each other, and by hurting one we wound the other. There is so much that needs to be done to halt the destruction of our world environment, so many prejudices and so much self-interest to be overcome. How can the situation possibly be changed in the time available?

My remaining hope is the amazing adaptability of human beings and the astonishing resilience of nature itself. Certainly the world and its human inhabitants are both changing, but we can hope that all the changes will not be bad. Perhaps humankind will start walking firmly in the direction of reconstruction and a better way of life. Maybe there is a good future for us all yet.

Sir Edmund Hillary

