THE ANNUAL BALZAN LECTURE

4

FAIR SOCIETY, HEALTHY LIVES

by

MICHAEL MARMOT

2004 Balzan Prizewinner

LEO S. OLSCHKI

2013

MICHAEL MARMOT

Fair Society, Healthy Lives

29 August 2012, University of Zurich in cooperation
with the Center for Gerontology, University of Zurich

Fondazione
Internazionale Balzan
"Premio"

Akademien der Wissenschaften Schweiz
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Academias svizras da las scienzas
Swiss Academies of Arts and Sciences

Accademia Nazionale dei Lincei

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Tutti i diritti riservati

Casa Editrice Leo S. Olschki
Viuzzo del Pozzetto, 8
50126 Firenze
www.olschki.it

ISBN 978 88 222 6251 6

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Alberto Quadrio Curzio
Member of the Board of the International Balzan Foundation "Prize",
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of the Accademia Nazionale dei Lincei

FOREWORD

The Annual Balzan Lecture series, to be delivered by Balzan Prize-winners, was inaugurated at the Accademia Nazionale dei Lincei with a tandem lecture given by Professors Peter and Rosemary Grant, entitled *The Evolution of Darwin's Finches, Mockingbirds and Flies*. The second, in Zurich, *Humanists with Inky Fingers*: *The Culture of Correction in Renaissance Europe*, was delivered by Professor Anthony Grafton of Princeton University, and the third, in Rome, *Cognitive Archaeology from Theory to Practice: The Early Cycladic Sanctuary at Keros*, by Lord Renfrew of Kaimsthorn.

This volume contains the text of the fourth Annual Balzan Lecture given by Professor Sir Michael Marmot, Professor of Epidemiology and Public Health at University College London and 2004 Balzan Prizewinner, *Fair Society, Healthy Lives*, and held in Zurich on 29 August 2012.

This series of lectures is the outcome of cooperation between the International Balzan Foundation 'Prize',[1] the Swiss Academies of Arts and Sciences[2] and the Accademia Nazionale dei Lincei.[3] The agreements[4] between the Balzan Foundation and the two national academies are designed to set in motion and sustain a series of initiatives. These initiatives have resulted in this present series of academic publications.

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[1] See p. 57.
[2] See p. 57.
[3] See p. 58.
[4] See p. 59.

The initiatives also include the Balzan Interdisciplinary Forum, which is held in conjunction with the annual awards ceremony. When the awards ceremony is held in Rome, an Annual Balzan Lecture is held in Switzerland in the same year.

As Chairman of the Joint Commissions established by the International Balzan Foundation "Prize", the Swiss Academies of Arts and Sciences and the Accademia Nazionale dei Lincei, I am gratified to see this cooperation flourishing and in particular gaining recognition through these lectures.

WELCOME ADDRESS BY ANDREAS FISCHER

President of the University of Zurich

Sir Michael,
Esteemed guests,
Ladies and gentlemen,

It is a privilege and a pleasure to welcome you to this year's Annual Balzan Lecture in the Aula, the main assembly hall of the University of Zurich. We are most honoured to host this event, and I would like to extend a special welcome to our main speaker and 2004 Balzan Prizewinner, Sir Michael Marmot, Professor of Epidemiology and Public Health at University College London. Professor Marmot, we are very happy to have you here today, and I hope that you will enjoy your stay in Zurich and at our University. A further welcome goes to Professor Thomas Abel from the Institute of Social and Preventive Medicine of the University of Berne, who will comment on Professor Marmot's lecture, and to Mike Martin, Professor for Gerontopsychology and Director of the University of Zurich's Center for Gerontology. He will introduce Michael Marmot and his research, and moderate the discussion following the lecture.

The Annual Balzan lecture series is the fruit of a recently established collaboration between the International Balzan Prize Foundation, the Swiss Academies of Arts and Sciences and the Accademia Nazionale dei Lincei. The agreement between these three partners was formalized in 2009 with the aim of further spreading the renown of the Balzan Prize and its Prizewinners on an international level, while at the same time strengthening the strong local ties of the Balzan Foundation to Italy and Switzerland. Let me express our heartfelt gratitude to the parties involved for their greatly appreciated efforts to promote knowledge both in the fields of science and the humanities.

It is not the first time that the University of Zurich has had the pleasure of hosting a ''Balzan'' event, and we are proud of our longstanding relationship with the Foundation. Please allow me to briefly recall our own Balzan Prizewinners. Twice so far the prize has been awarded to academics who spent part of their career at the University of Zurich. One of the very first recipients of a Balzan Prize was the composer Paul Hindemith, who was Professor of Music Theory, Composition and Music Education at the University of Zurich from 1951 to 1956; he was awarded the Prize for Music in 1962. Our second Prizewinner, Walter Burkert, Professor of Classical Philology in Zurich for almost 30 years, was honoured in 1990.

Today, we have the pleasure to hear a more recent Prizewinner talk about his latest research. Professor Marmot will speak about the correlation between socioeconomic status on the one hand and health and life expectancy on the other, sharing with us the findings of his review of health inequalities in the UK, which he conducted for the British Government. The higher a person's social position, according to one of the key messages, the better are his or her chances for a healthy, long life.

Taking into account the growing importance of issues related to aging and health in a world with a dramatically changing demographic structure, the University of Zurich has just recently decided to launch – as one out of eight new Research Priority Programs – a program on the ''Dynamics of Healthy Aging''. An important goal of this project is to examine how the quality of life and health can be stabilized on a long-term basis. As the researchers in charge of the program put it, the focus will be on an ''application-oriented exploration of the neurophysiological, neuroanatomical, psychological, and medical underpinnings of psychological health in middle to old age''. The program will start in 2013; it will run for a maximum of twelve years and is being built on excellent research expertise already present at the University in this field. In 1998 a Competence Center for Gerontology was founded, which links and supports over 60 researchers from different disciplines and faculties. The Center also has an important role as mediator between scholarship and society, providing politicians, people involved in the care of older people and the interested public with information and advice. Three years ago the International Normal Aging and Plasticity Imaging Center (INAPIC) opened its doors. A key objective of INAPIC is to explore the potential for plasticity and compensa-

tion in normal processes of aging with the aid of functional and structural MRI. The center further strengthens the University of Zurich's position in research on aging.

The socioeconomic focus on health and aging that Michael Marmot promotes in his lecture complements the work done here in Zurich, and we are thus very much looking forward to hearing what Professor Marmot has to say about this topic, which is of great relevance, not only scientifically but also politically.

WELCOME ADDRESS BY ALBERTO QUADRIO CURZIO

Honorable Professor Andreas Fischer, Professor Heinz Gutscher and Professor Mike Martin. On behalf of the Balzan Foundation, it is my pleasure and my duty to thank you first of all for organizing this important meeting in this Assembly Hall. It is a true privilege for me to welcome everyone to the 2012 Annual Balzan Lecture *Fair Society, Healthy Lives*, which will be delivered by the Honorable Professor Sir Michael Marmot, Professor of Epidemiology and Public Health at University College London and 2004 Balzan Prizewinner. I wish to convey to the speaker my warmest thanks and appreciation.

This is the fourth Annual Balzan Lecture under the aegis of the agreements signed by the International Balzan Foundation "Prize", the Swiss Academies of Arts and Sciences, and the Accademia Nazionale dei Lincei. As Chairman of the Joint Commissions established by the abovementioned Academic agreements, I am particularly glad that this initiative, which is the joint work of the Balzan Foundation, the Swiss Academies and the Accademia dei Lincei, has already had such a successful reception. I think that this initiative of the Balzan Foundation, of worldwide renown, is important in order to promote academic and scientific learning to a wider audience. I want to warmly thank both the Chairman of the Italian Balzan Foundation "Prize", Bruno Bottai, and the Chairman of the Swiss Balzan Foundation "Fund", Achille Casanova, for their support in this.

I believe that the unifying element underlying all of the lectures can be extrapolated from Professor Marmot's statement upon receiving the Balzan Prize in Rome in November 2004. He said: "the Balzan Prizes celebrate scholarship and learning as important contributors to our civilisation and culture". Referring to his field of research, he added something that might be relevant – directly or indirectly – to many Balzan Prizewinners: "[the Prize] endorses the way I go about my research life: research to accumulate knowledge linked with concern for social justice".

The Balzan Prize citation in relation to Sir Michael stated: ''Sir Michael Marmot has made seminal contributions to epidemiology by establishing hitherto unsuspected links between social status and differences in health and life expectancy. He has initiated the era of social epidemiology and paved the way for the development of a wholly new concept of preventive medicine''.

Among other things, Professor Marmot's statement in accepting the prize said: ''I am trained in medicine and epidemiology, which means that we investigate the causes of disease in populations. I have spent the bulk of my research career investigating the social and cultural determinants of health. This entails collaboration with other branches of medical and biological knowledge, but it also involves psychologists, sociologists, economists, statisticians, and anthropologists''. This statement contributes to ensuring the continuity between science and the humanities, for the progress of humanity itself.

Professor Marmot will be introduced by Professor Mike Martin of the Center for Gerontology, University of Zurich. Professor Thomas Abel of the Institute of Social and Preventive Medicine, University of Bern, will be the discussant. I wish to convey my personal thanks to both on behalf of the International Balzan Prize Foundation.

Postscript

In this lecture, Professor Marmot emphasised the relevance for ''policy action on the social determinants of health''. As he said, on the basis of the links between social inequity and wealth inequalities – both between and within countries – that he has found in his research, ''taking action [...] is a matter of social justice''.

In his comment to Professor Marmot's lecture, Professor Thomas Abel, from the Institute of Social and Preventive Medicine of the University of Berne, pointed out: ''we now have sufficient evidence that the social determinants are affecting the health of our societies in prevailing patterns and to a huge extent. But it is also safe to say that next we need to improve our knowledge base on *how* our societies produce and re-produce the structures that bring to bear on the social determinants of health. We need more knowledge on the underlying social processes – not to keep health researchers busy – but to make Public

Health interventions on the social determinants of health stronger and achieve fairer societies with healthier people".

Steps in this direction have been launched here, at the University of Zurich, whose President, in his welcome address reminded us that the soon to begin program on the "Dynamics of Healthy Aging" has the aim of examining how the quality of life and health can be stabilized on a long-term basis. The Competence Center for Gerontology will play a crucial role in this.

For all these reasons, I am sure that the discussions reproduced here are a timely contribution to the Annual Balzan Lecture series.

WELCOME ADDRESS BY HEINZ GUTSCHER

President of the Swiss Academies of Arts and Sciences

Ladies and Gentlemen,

After having heard the previous speakers and their many friendly words of thanks, I am inclined to tear up the notes for the speech I had prepared for today.

But, of course, it is a nice ritual to thank each other, and that I still will do. The most important facts on our cooperation with the Balzan Foundation "Prize" have already been delivered, but I will add that the Swiss Academies are very proud of this cooperation, and especially of being able to make a contribution to the urgent need to strengthen the voice of science all over the world. In this context, I would like to personally thank the honourable *Professore* Alberto Quadrio Curzio and Secretary General Mrs. Suzanne Werder for helping us to set up the common events which have already been mentioned. But one event that takes place this year for the first time has not yet been referred to: The Young Researchers' Laboratory, which will be held later this year in Rome. We are planning to have a second one of these events in Switzerland in 2013, probably – hopefully – in Lugano, and an initial planning meeting already took place earlier today.

So let me first thank the President of the University of Zurich, Professor Andreas Fischer, for hosting today's event. I have to thank, of course, Professor Mike Martin, my former colleague at the Institute of Psychology and today's Director of the Center of Gerontology. We have to thank Hans Rudolf Schelling and the whole team at the Gerontology Center, which did a marvellous job in cooperating and setting up this event today. Thank you very much. And, of course, finally, I must say that I am truly delighted to see you all here. Thank you for coming. The fact that so many of you have travelled long distances or even extremely long distances serves to remind us that this Balzan

Prize and all of the events around it are very prestigious and very important, and that is what makes us proud. So thank you all for being here; thanks to the speakers and commentators, Thomas Abel from Berne, as well as to our next speaker, Mike Martin, who will now introduce Sir Michael Marmot.

PRESENTATION OF MICHAEL MARMOT BY MIKE MARTIN

Director of the Center for Gerontology, University of Zurich

Dear Presidents of the University of Zurich, the Balzan Foundation, and the Swiss Academies of Arts and Sciences,
Dear Professor Sir Marmot,
Dear Professor Abel,
Ladies and gentlemen,

I have the great honor and pleasure today to present our speaker Professor Sir Michael Marmot, who will give the 2012 Annual Balzan Lecture *Fair Society, Healthy Lives*. The lecture is a special occasion for me as the Director of the University of Zurich's Gerontology Center. The practice-oriented and participatory research of this Center focuses on the question of how the health and quality of life of the aging population – and for us, this starts at age 45 – can be maintained well into very old age. The promotion of and the preparation for a healthily aging society, the topic of today's lecture, thus fits perfectly with this goal of the university. However, I am very sure that the lecture will provide new and essential insights and international perspectives on the theme.

Today's Balzan lecture is given by Sir Michael Marmot, who received the highly prestigious Balzan Prize for Epidemiology in 2004. For 35 years, he has led an impressive research group on health inequalities. In fact, he is the Principal Investigator of some of the most famous studies on the issue. The Whitehall studies are practically a brand name for health research and for finding the impressive inverse social gradient in morbidity and mortality. Many researchers worldwide, including multimorbidity researchers in the Multimorbidity.NET research group have been inspired by this study.

Professor Marmot also leads the English Longitudinal Study of Aging and cooperates with and consults on several international studies on the determinants of health across a lifespan. He has served as the

President of the British Medical Association, is a Fellow of the Academy of Medical Sciences, Honorary Fellow of the British Academy and of the Faculty of Public Health of the Royal College of Physicians. Twelve years ago he was knighted by Her Majesty The Queen for services to epidemiology and the understanding of health inequalities.

The title of the lecture *Fair Society, Healthy Lives* is identical to the title of the Strategic Review of Health Inequalities in England, commissioned by the British government. The report followed an earlier report by the WHO Commission on Social Determinants of Health entitled *Closing the Gap in a Generation*, published in 2008. Sir Marmot is currently conducting the European Review of Social Determinants of Health and the Health Divide.

From this information on Professor Sir Michael Marmot and his work, it is quite obvious that, worldwide, there is no better expert on the topic of the 2012 Balzan lecture *Fair Society, Healthy Lives* than himself. We all look forward to his presentation, so please join me in welcoming Professor Sir Michael Marmot.

Lecture by MICHAEL MARMOT

FAIR SOCIETY, HEALTHY LIVES

In 2004 when I had the honour to receive the Balzan Prize I finished my speech by saying that the research was somewhat immodest: it has the twin aims of the generation of knowledge and the pursuit of social justice. I also said that I hoped that it would lay the basis for action – for policy action on the social determinants of health. So what I want to talk about this evening is in a sense what I did next after 2004, which was building on the research, and trying to use the best evidence to influence the policy process. People ask me, as I have been talking to politicians and trying to influence the policy process: "How do you achieve political change?"

I signalled in my acceptance of the Balzan Prize and Lecture in 2004 that the World Health Organization set up the global Commission on the Social Determinants of Health. We launched it in Santiago de Chile in 2005; we reported in 2008, and we called the report *Closing the Gap in a Generation*. The starting position for the Commission on the Social Determinants of Health was that life expectancy for women in Zimbabwe was 42 and for women in Japan was 86: a 44-year difference in life expectancy across the world. The fact is that there is no good biological reason why there should be a 44-year difference in life expectancy across the world. It arises, we said, because of our analysis of social and economical arrangements. It is grossly unfair. Unjust. The report, *Closing the Gap in a Generation*,[1] shows what happens if you let academics loose on important policy process. They do silly things like

[1] Commission on Social Determinants of Health. Closing the gap in a generation: health equity through action on the social determinants of health. Final report of the Commission on Social Determinants of Health, Geneva, World Health Organisation, 2008.

say: ''Closing the Gap in a Generation''. It was a statement that we have the knowledge to close the gap in a generation; it was a statement that we have the means to close the gap in a generation. The question is: do we have the will to close the gap in a generation?

What do I mean by 'we have the means'? Do 40% of the world's population not live in poverty? We said in the report at the Commission on the Social Determinants of Health that one billion people in the world live in slums; we said it would cost 100 billion dollars to upgrade the slums. When we said that, I thought: 'No one is going to take us seriously. Who would find 100 billion dollars for anything?' The last time I looked, we had found nine trillion dollars to bail out the banks. For one ninetieth of the money that we found to bail out the banks, every urban dweller could have clean running water. Do we have the knowledge? We have the knowledge. Do we have the means? We have the means. Nine trillion dollars. Do we have the will?

We said that taking action on these avoidable inequalities in health, between and within countries, is a matter of social justice. It was put to me that no government would take us seriously unless we made the economic case – to show that it was good for the economy to take action on the Social Determinants of Health. I argued that if there was a good economic case, great, but that was not why we were doing it. It was a matter of social justice, an intensely ethical concern. I took what I said when I had the honour to receive the Balzan Prize and tried to put it into action. I said, ''Let us do this because it is the right thing to do''. We launched the Commission on the Social Determinants of Health in Santiago de Chile, so I quoted Pablo Neruda at the end of our launch, and invited the audience to rise up with me against the organization of misery. We can make a difference. But to do it, we said, we have to tackle the inequitable distribution of power, money and resources *to improve the conditions in which people are born, grow, live, work and age*. We said *empowerment is key*.

As you have heard, in the wake of the global commission, the British government asked me ''How could we apply the results of the global commission to one country?'', the UK. The answer is because we had a global reach with the Commission on the Social Determinants of Health, dealing with sub-Saharan Africa, Latin America, South Asia, East Asia, North America and so on. So we made a virtue of necessity, and we said it was very important that countries take this on, cities take

it on, local authorities take it on – ask how to apply it. I gave the title of my English Review, which was published in 2010, *Fair Society, Healthy Lives*[2] because it was a statement that, if we put fairness at the heart of all policy making, health would improve and health inequalities would diminish. That is quite a claim, actually.

Now as for my claim that putting fairness at the heart of all policy making will reduce health inequalities and promote health, one way I can do it is by arguing tautologically. We have been using the term health equity. I am a doctor; I am concerned with health outcomes, and systematic differences in health between social groups that are judged to be avoidable by reasonable means are unfair. Hence, any social action that leads to increase in these avoidable health inequalities is unfair. So that is a filter that I would like to put all policy making through. What is the likely impact on health and the fair distribution of health? Health then functions as a kind of social accountant, and we're about to publish the European Review of Social Determinants of Health and the Health Divide, commissioned by the European office of the World Health Organization.

So thinking about the broad European context that went into the background of the European Review – life expectancy at birth among women in a region of the World Health Organization. The European region includes the whole of the former Soviet Union, so it goes all the way to Vladivostok. And life expectancy for women in Kazakhstan is under 73 and in France it is 85. There is a 12-year spread of life expectancy for women across European countries. For men, there is a 20-year spread. In the Russian Federation, life expectancy for men at birth is 60; in Iceland and Switzerland, it is 80.

Now this is quite different from what we were looking at in relation to the Commission on the Social Determinants of Health. They are not dying of malaria in the Russian Federation. They are not dying of diarrheal disease. They are dying of heart disease. They are dying of violent deaths and other alcohol-associated deaths. They are dying of non-communicable disease – diseases that we used in the past rather crudely to think about as diseases of affluence. Thinking about poverty in third

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[2] UCL Institute of Health Equity, *Fair Society, Healthy Lives* (the Marmot Review), London, Institute of Health Equity, 2010.

world destitution terms will not do at all, because destitution in the third world/developing country sense does not cause heart disease, does not cause alcohol-associated diseases. We have to think about poverty and destitution and social determinants of health in a different way.

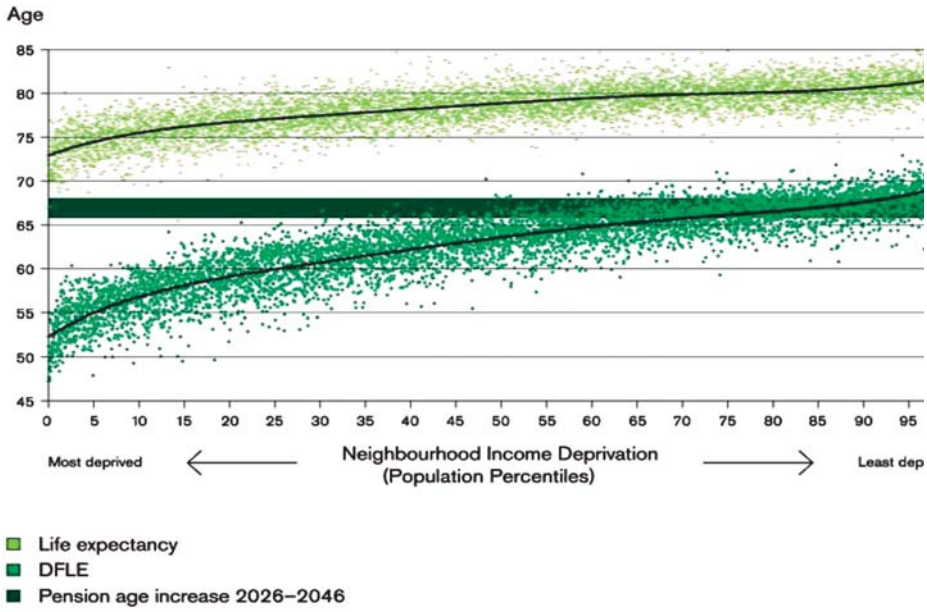
We can see that the gap has been increasing. Life expectancy for the older member states of the European Union for men in 1980 was just over 70. It went up year on year. For the newer member states, the former Communist countries of Eastern Europe, it was flat; it did not change. While life expectancy was improving for Western Europe, it was not improving in Central and Eastern Europe, although after the collapse of Communism, after a pause, it started to improve. And the Commonwealth of Independent States of the former Soviet Union has been on this roller coaster ride. In 1980, the gap was 63 to 71, about 8 years. In 2008, as I have said, it is 20 years between the Russian Federation and the best off.

Now that is important. If we can get an increase in the gap so rapidly, potentially we can get a reduction in the gap. This is not a fixed property of these societies; it can change very quickly. And there are similar trends for women – less amplified than for men, but the same kind of pattern. These are the inequalities between countries.

The main research that I had done leading up to the Balzan Prize was to do with the social gradient in health. In the Whitehall Study of British civil servants, we showed that the higher you were in the hierarchy, the better your health. The British civil servants are not poor, by any usual stretch of the imagination, and yet there was this social gradient, and we see it for the whole country. This is data for England. Every dot (see Fig. 1) represents a neighbourhood classified by level of income deprivation. And the top graph is life expectancy. What you can see is people near the top, in other words, the least deprived, the most affluent, people *near* the top have shorter life expectancy than those *at* the top. People in the middle have shorter life expectancy than those near the top, and so on, all the way from top to bottom. It is a social gradient. The bottom graph is disability-free life expectancy. The gradient is much steeper. For life expectancy, the gap between the 5^{th} and 95^{th} centile was seven years; for disability-free life expectancy it is 17 years.

I was asked: "How are things in Britain?" What is starting to happen now is a narrative that the poor are somehow undeserving. The

Fig. 1. Life expectancy and disability-free life expectancy at birth by neighbourhood income deprivation, England 1999-2003.



Note: DFLE is Disability Free Life Expectancy.
Source: Fair Society, Healthy Lives, 2010, Institute of Health Equity using data from the Office for National Statistics, London.

poor are the architects of their own misfortune. Good people work; bad people do not work. Good people have enough money to live on; bad people don't have enough money to live on. The undeserving poor is the new narrative. I went back to George Bernard Shaw and *Pygmalion*. Because the flower girl, Elisa Doolittle, wants to speak properly, she goes to the phoneticist, Professor Henry Higgins, and asks him to teach her. And so she comes to reside in his household. And her father, the dustman, Alfred Doolittle, comes to call on Professor Higgins. He doesn't want his daughter back, but he wants money, and says:

> I ask you, what am I? I'm one of the undeserving poor: that is what I am. Think of what that means to a man. It means that he's up agen middle class morality all the time. If there is anything going, and I put in for a bit of it, it's always the same story: 'You're undeserving; so you can't have it'. But my needs is as great as the most deserving widow's that ever got money out of six differ-

> ent charities in one week for the death of the same husband. I don't need less than a deserving man: I need more. I don't eat less hearty than him; and I drink a lot more. I want a bit of amusement, cause I'm a thinking man. I want cheerfulness and a song and a band when I feel low. Well, they charge me just the same for everything as they charge the deserving. What is middle class morality? Just an excuse for never giving me anything.

And he goes on in that vein. Henry Higgins says: "If we were to take this man in hand for three months, he could choose between a seat in the cabinet and a popular pulpit in Wales". The undeserving poor, they have come back. Shaw wrote this a hundred years ago, and we are talking the same language.

Banerjee and Duflo recently published a book entitled *Poor Economics. A Radical Rethinking of the Way to Fight Global Poverty*, and in that volume, they make the point that people look at what the poor do in poor countries, and when they get a bit of money, they spend it on their daughter's wedding. What a waste! Spending on their daughter's wedding, when they should be actually investing it in a new cow, or buying food or medical care. Just because you are poor does not mean you do not want to celebrate your daughter's wedding. In fact, the point that Banerjee and Duflo make is that the poor are the same as us – no more rational, no less rational than we are. What do we spend money on when we get it? We are no more or less rational than people who do not have it. They still want to lead a life. Nobody likes to be feckless. And I put it to you: it is a tiny, tiny minority who want to be unemployed, who want to live on welfare. Most people want to have a role in society, and yet we have got this new narrative about the undeserving poor.

Now the whole point about the social gradient in health is that inequities in health are not confined to poor health for those at the very bottom. It is a social gradient. The people in the middle are not undeserving, but they have worse health than those above them. What about the economic argument? To come back to it – look at the gap between disability – free life expectancy and life expectancy (Fig. 1). At the top it means that people are living about twelve years of their life on average in disability and at the bottom people are living about twenty years on average of their lives with disability. We do not just do things because they are cheap and effective! I would argue that even the people who say you have got to make the economic case know in their hearts

that that is not why we are doing this. It is an ethical reason; we have to do what is right.

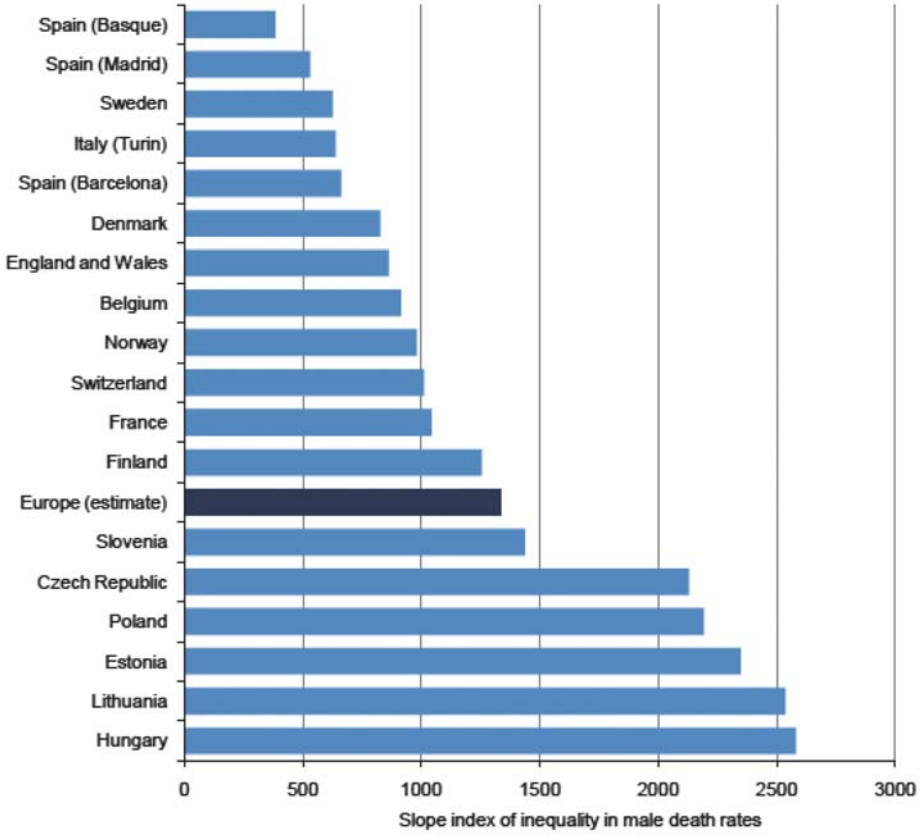
We have to use the best evidence. We have been monitoring health inequalities after we published the English Review on health inequalities. We published a report in February of 2011 on the one year anniversary of the English Review and in 2012, this year, on the two year anniversary. We have been looking at the gradient, the slope index of inequality within local government areas. So in the London borough of Westminster, where Parliament is, there is a 17-year difference in life expectancy between the bottom decile and the top decile.

I can cycle from the Houses of Parliament in the south of the borough to the north of the borough in about half and hour, and I have covered a 17-year gap in life expectancy right there in central London! Politicians, if they ever looked outside the Palace of Westminster, could see it. In the London borough of Hackney – which the fast train from central London to the Olympic Stadium whizzed through but too quickly for people to see the poverty in Hackney – people working there said to me: ''We wish you had not published the inequality index, because we looked pretty good!'' The was only a 3.1 year gap between the bottom and the top. They looked good – because it is uniformly ghastly! It is all bad. So there is not that much inequality because they are all right down there at the bottom. So we have to look at both the average and the slope – very important.

When we look across Europe, and the slope index of inequality by education, you can see the big differences (Hungary, Lithuania, Estonia, Poland, the Czech Republic, Slovenia). The steep social gradient in mortality is in the former Communist countries of Central and Eastern Europe. Switzerland is better than the European average, but not so terrific. Sweden predictably has relatively narrow inequalities (Fig. 2).

The approach we took in the English Review was across the life span: early years, skills development, employment, prevention. We had six domains of recommendations: give every child the best start in life; education and lifelong learning; fair employment and suitable work for all; healthy standard of living for all; healthy and sustainable places and communities; and strengthen the role and impact of ill health prevention. We see very steep gradients in early child development and they are real gradients. It is not just that children of the poor have worse early child development than everybody else: it is a graded phenomenon.

Fig. 2. Absolute inequality in male death rates by level of education.



Source: J. Mackenbach – I. Stirbu – A. Roskam – M. Schaap – G. Menvielle – M. Leinsalu, et al., *Socioeconomic Inequalities in Health in 22 European Countries*, «New England Journal of Medicine», 2008; 358: 2468-81.

Could we do anything about the gradient in early child development? It was put to me that we were going to be reporting in an adverse economic climate. Here is a *really* expensive intervention: read to your children. Look at the social gradient in the proportion of children who are read to every day. And we have good evidence that reading to children, talking to children, cuddling children, playing with children, generally being a caring parent, improves linguistic development, cognitive development and social and emotional development of children as well as physical development. If parents are ground down by poverty and misery, and feel unable to read to their children, the evidence is

that professional services can make up a big part of the deficit. Reading to children follows the gradient, regular bedtimes follows the gradient. Mothers with post-natal depression, the gradient goes the other way – with catastrophic effects on children's development. This continues through children's lives.

Why am I – a doctor, talking about health – putting so much emphasis on early child development? Because what happens in early childhood influences what happens in the school system, which in turn influences the kind of job you have, how much money your earn, where you live – how much control you are able to take over your life. And that in turn has profound implications for health inequity: the unfair distribution of health.

As a part of our monitoring, we looked at those children achieving a good level of development at age five, in all local authorities. You see a very clear relation between deprivation – in this case lack of deprivation – and early child development. It has been pointed out to me that there is a spread around the line at equivalent levels of deprivation – some local authorities do better than others. A local authority may not be able to do much about the deprivation of that local authority, but by focusing on early child development, the evidence shows they can break the link between deprivation and quality of early child development. So we need to be doing two things: reducing the social and economic inequalities, and taking the specific actions to break the link between degree of deprivation and poor child outcomes and indeed poor health outcomes.

I went to the English city of Birmingham. I had to go because I had been told that they had six "Marmot Champions" for each of the six Policy Objectives in my Review *Fair Society, Healthy Lives* which are:

– give every child the best start in life;
– enable all children, young people and adults to maximise their capabilities and have control over their lives;
– create fair employment and good work for all;
– ensure a healthy standard of living for all;
– create and develop healthy and sustainable places and communities;
– strengthen the role and impact of ill health prevention.

Birmingham's data on early child development were worse than the English average, because Birmingham is more deprived than the Eng-

lish average. In the space of three years, they had narrowed – nearly abolished – the gap between Birmingham and the English average in early child development. I asked how they did it and their answer was that they focused on it – that it has not been very difficult, they just put effort into it.

One of the shocking things to me about the figures was that the median was 59%. That means only 59% of children were rated as having a good level of child development at age five.

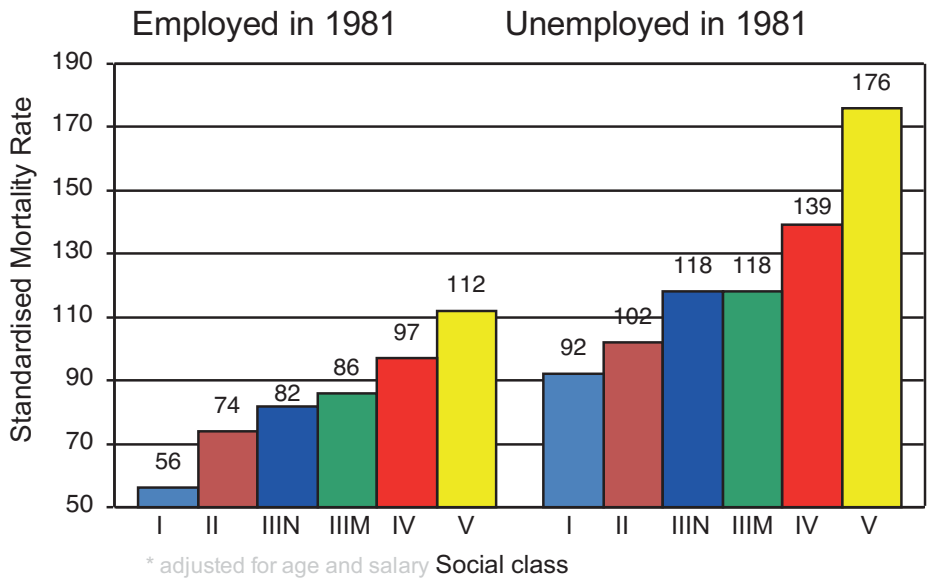
Low education groups are more likely to experience unemployment across Europe for those with pre-primary, upper secondary and tertiary education in every country. Unemployment does not hit randomly. The lower your education, the more likely you are to be unemployed. So, good early childhood development, good performance in the school system – reduced likelihood of becoming unemployed when there is an economic downturn.

Coming back to the UK, the rise in youth unemployment is of course a dramatic concern, or should be. When we were doing the English Review, we partnered with the English city of Liverpool. They said to us in Liverpool that the young people who left school in the 1980s economic downturn and did not get into employment *never* got into employment. They spent a lifetime on the scrap heap and now it is their children facing a lifetime on the scrap heap. In Spain, youth unemployment is over 50%. What is going to happen to that generation?

What are we doing in Europe against unemployment? We are pursuing policies that predictably will still increase unemployment, as if we did not care. In the 1980s economic downturn in Britain, colleagues of mine looked at the relation between unemployment and mortality.

In Fig. 3 on the left hand side we see mortality rates for people who were employed in 1981. You see the social gradient in mortality, the lower the social status, the higher the mortality. And then on the right hand side are people who were unemployed in 1981. For each social class, the unemployed have higher mortality than the employed. At that time, the Chancellor of the Exchequer, the Minister of Finance, said that if a rise in unemployment is the price we have to pay to keep inflation down, it is a price worth paying. I wondered: would a Minister of Finance say that killing people is the price we have to pay to keep inflation down? Is it a price worth paying? That was the effect of the

Fig. 3. Mortality* of men aged 16-64 by social class and employment status at the 1981 census 1981 LS Cohort: England & Wales.



* mortality 1981-92.
Source: A. BETHUNE (1997), *Unemployment & mortality*, in F. DREVER – M. WHITEHEAD (eds.), *Health Inequalities*, London, The Stationary Office.

policies, because unemployment kills people. So to pursue policies that predictably will lead to a rise in unemployment is irresponsible, to put it mildly.

Now that was looking at unemployed individuals. When we look at whole countries, a 1% rise in unemployment is associated with a 0.8% rise in suicides and a 0.8% rise in homicide.[3] People kill themselves, and they kill each other. But there is no effect on all-cause mortality because they cannot afford to take the car out, so traffic deaths go down.

One of our recommendations in *Fair Society, Health Lives* is to 'ensure a healthy standard of living for all', a minimum income for a healthy life. In a rich society, everyone should have the minimum necessary for a healthy life. We should look at the economic context.

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[3] D. STUCKLER – S. BASU – M. SUHRCKE – A. COUTTS – M. MCKEE, *The public health effect of economic crises and alternative policy responses in Europe: an empirical analysis*, «Lancet», 2009; 374(9686): 315-323.

In 1977, the top 20% had about 37% of total household income. Under Mrs. Thatcher, that figure went up to 42 or 43%. It then stayed there – under Mrs. Thatcher, John Major, Tony Blair... It did not change. It did not matter who the Prime Minister was, it stayed up there. Conversely the bottom 20% started at about 9% of total household income, and went down to about 6%, and stayed there. There is supposedly a progressive income tax system, but there is a steeply regressive consumption tax – value added tax – too. So we do not have a redistributive tax system. In fact, as we said in the English Review, the top 20% of earners pay 35% of their income in tax, and the bottom 20% of earners pay 38%. This is, I think, unfair. I think that if you put fairness at the heart of all the policy making, you would not do that.

In the United States in 1928, the top 1% of earners had 23% of total household income.[4] In 1928, the Great Crash occurred and their share plummeted. All through the period of continued economic growth of the 1950s and 1960s the top 1% had 8 or 9% of total household income. Then it took off in the late 1970s. By 2007, the top 1% had 23% of total household income. What happened next? Now, I'm a careful scientist. I would never claim that correlation is causation. I would not argue that it has been proved that the unconscionable greed of the top 1% brought the world's economy to its knees. But you have to admit, it is a credible hypothesis and the problem is that it is not only affecting this generation, it will affect the next generation.

The problem is the bigger the income inequalities, the larger the gap between the rungs of the ladder, and the greater the difficulty in getting from one rung to the next. So income inequalities affecting this generation have a profound impact on *inter*-generational equity. In Greece we can already see dramatic worsening in the population's health: put-off dental care and medical care; bad self-reported health.

In the UK, the Institute for Fiscal Studies has been looking at the economic crisis, and the government's response to it. For the changes in the government's tax and welfare policy, taxes and transfers, child poverty will predictably increase. All this is going to make it much

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[4] *Source*: E. SAEZ, *Striking it richer: The evolution of top incomes in the United States (update with 2007 estimates)*, Berkeley, CA: UC Berkeley Institute for Research on Labour and Employment, 2009.

more difficult to reduce the social gradient in early child development, and hence the social gradient in health.

Social protection policies make a difference. A 3% rise in unemployment would lead to a 3% rise in suicide if there was no spending on social protection.[5] In Eastern European countries, they spend about 37 dollars per head on social protection, which includes active labour market programmes, family support health care and unemployment benefits. So, where they spend about 37 dollars a head, a 3% rise in unemployment is associated with a 2.5% rise in suicide. In western European countries, which spend about 150 dollars a head, a 3% rise in unemployment is associated with less than 1% rise in suicide. Government spending makes a big difference.

In general, there is a relation between social welfare spending and all-cause mortality, the higher the spending on social welfare, the lower the all-cause mortality. At lower levels of spending, there is a clear relation: more spending, lower mortality.

Social protection policies can mitigate inter-generational effects. If you look at child poverty in different countries, and a measure of family policy generosity, the more generous the family policies, the less the child poverty. That may be because it allows two parents to go out to work. So we have said that policy makers should recognise the effects of macroeconomics on health; they should act now to protect health and act on the social determinants.

One of the recommendations that I drafted in the Commission on Social Determinants of Health, was that there should be a global conference where all countries report on what they have been doing. Three years after we reported the Commission on Social Determinants of Health, we had the first World Conference on Social Determinants of Health in Rio de Janiero: 126 member states were represented, 60 ministers of health, representatives of UN agencies... I thought "This is really happening! People are actually talking this language!"

Being awarded the Balzan Prize in 2004 has also been fundamental in making things happen: half of the amount has been used to set up the University College London's Balzan International Fellowship program, which is designed to help develop the next cadre of researchers

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[5] *Source*: D. Stuckler – S. Basu – M. McKee, *Budget crises, health, and social welfare programmes*, «British Medical Journal», 2010; 340: 3311.

in the social determinants of health. At the same time, it strengthens strategic international collaborations with the University College London's International Institute for Society and Health. Its goal is to train scholars to:

– investigate new links between genetic, environmental and social determinants of health;
– improve the quality of evidence used for policy making and conceptualize the pathways to influence policy;
– build inter-institutional collaborative ventures and build capacity on improving population health.

The fellowships are designed to invest in future researchers to help reduce inequalities in health between and within countries throughout the world. So far, ten fellows have been engaged in research related to the issues raised during this lecture, and there have been various publications in leading medical reviews.

I have been going round the world saying that I am an evidence-based optimist. We can make a big difference, really quickly. We have got the evidence; there are signs of take-up. It is a matter for the whole of society and for the whole of government, but we really can make a difference.

The Chief Medical Officer of Scotland, Sir Harry Burns, was interested in comparing Glasgow with Liverpool and Manchester. When we published the Commission on Social Determinants of Health, I drew attention to the fact there was a 28-year gap in life expectancy for men in Glasgow. In the poorest part of Glasgow, life expectancy for men was 54! In the richest part, it was 82. A 28-year gap in Glasgow. In one city! Harry Burns was concerned at this Glasgow Effect. So he compared Glasgow with Liverpool and Manchester, three post-industrial cities, with similar levels of poverty, and similar levels of income inequality – but Glasgow has higher mortality.

The causes of death that have the biggest relative excess in Glasgow are drug-related poisonings, alcohol, suicide and external causes such as accidents and violence and then lung cancer, which is behavioural – smoking. Harry Burns states that a major element of the excess risk of premature death in Scotland is psychosocially determined. He mentions study evidence of low sense of control, low self-efficacy and low self-esteem in these areas. We should be addressing ourselves not just

as to whether people are drinking or smoking – their causes of ill health. We should address not just the causes, but the causes of the causes. That is what we said in the Commission on Social Determinants of Health in the English Review and now in the European Review: we should address the people's lack of control over their lives, their lack of self-efficacy, which starts right at the beginning with good early child development.

Don Quixote was a dreamer, but his partner was Sancho Panza, the pragmatist. We need the dreams of Don Quixote, and we need the pragmatism of Sancho Panza. So let me invite you to dream with me of a fairer world, and let us take the pragmatic steps necessary to achieve it.

COMMENTS BY THOMAS ABEL

Institute of Social and Preventive Medicine, University of Berne

The focus of my comments will be on the directions we may take in future research on the links between social inequity and health inequalities.

The empirical data Sir Michael Marmot has just presented shows dramatic differences in life expectancy. So clearly they show that – when it comes to health – our societies are structured along the lines of social status, gender, race and ethnicity. And the structural divide shows in everyday life, everywhere – often most visible in residential divides (see Fig. 1). This example from Sao Paulo, Brazil, illustrates this common aspect: where you live will vary with your social class and the respective residential conditions will affect your chances of being in good or bad health.

Even in rich countries with lower levels of absolute inequality – like here in Switzerland – the same principles apply when linking social inequalities to health inequalities (see Fig. 2).

Higher social classes enjoy healthier living conditions. Research today shows that much of this is due to better material and non-material resources for health.

The need for theoretical guidance

How does the link between an individuals' position in society, their social resources and health exactly work? What is the role of people in that?

This second question – because it is not often asked in today's health research – may need some introduction:

Sir Michael Marmot alluded to the responsibility not only of governments but also of societies as a whole to act on a more fair distribu-

Fig. 1. Housing Sao Paulo.

Fig. 2. Social divide in Zurich.

tion of social resources. If it is about the resources that people have or do not have available, then it is also about individuals as actors and how they access and use these resources. So, the question arises: where and how do "the people" show up in our research models?

So far, most research in the social determinants of health considers active individuals, if at all, either as carriers of risks (e.g. low education groups have a higher risk of coronary heart disease) or as consumers of health services (e.g., people in higher status groups enjoy better health care than those in lower status groups).

But when we are concerned with the basic societal structures we should also ask: what about individuals as active agents in the structuring of their societies? As parents, neighbours, teachers, co-workers, etc. – in all their different roles, they contribute to the functioning of their societies and they become active components in the production of health. Through their collective behaviours they also reproduce social structures of advantage and disadvantage and health inequalities.

In other words: It is through individuals that health and social inequalities are produced and reproduced. "Through" individuals has, of course, two different meanings here. First, literally "through" the individual, namely their bodies, because of the fact that social inequalities become manifest in and through people's bodies. Second, "through" individuals refers to the fact that groups, e.g., through their patterns of collective lifestyles, are active in shaping our societies and contribute to the group specific probabilities for good or bad health status.

What about social change in the social determinants of health? Well, here again: new policies are needed which account for individuals as active agents, at least for the very simple reason that public health interventions most often have to be accepted by the people and put into practice through their collective actions in order to result in sustainable improvements in their health.

However, current theories and data which would account for the active role of individuals and their resource applications can hardly be found.

Towards a Theory of Social Change

Following the conclusions of the Social Determinants of Health Commission, we should focus on the unequal distribution of resources and people's capabilities.

This means that we need to better understand to what degree people's collective behaviors not only produce health but also contribute to the re-production of social inequality.

I use the term behaviours here as linked to the sociological concept of agency – referring to that part of human action which is linked to a person's structural position. The explanatory concept of agency refers to the collective behaviours *resulting from* the structural conditions and being *effective on* those structural conditions.

Agency can change structural conditions for the better – e.g., a neighborhood initiative on health promoting public spaces might be successful when supported by the city administration.

However, today more often than not, individual agency will not change but instead re-produce existing structural conditions. We can observe this, e.g., when the middle classes typically apply their privileged economic and social resources to secure healthy lifestyles and good conditions for health in their families and communities. Then their agency contributes to their health, but also the reproduction of health and social inequality.

Those examples draw our attention immediately to the fact that a person's chances of having an impact on the conditions of their health depend on the resources they have available and on structural conditions for their agency.

Following up on Amartya Sen's argument on capabilities: a fair society then is to be measured not only by the resources it provides, but also by the conditions it creates for people to use their resources and to be active and achieve their life goals – including a healthy life.

Obviously, to improve our understanding of how social structure, agency, resource distribution, capabilities and health chances are linked we will need new kinds of data and explanations. Those will need to focus on the social processes which are at work in the production and reproduction of the social conditions of health. Ultimately, we will need a theory of change – social change: social change towards improvements in the social determinants of health.

To start paving that way, we can advance our research in new directions and focus on the unequal distribution of resources and capabilities – and clearly, we will need new empirical research to show how this will reduce health inequities in our societies.

In the well known Marmot Review *Fair Society, Healthy Lives*, six policy objectives are suggested, one of these states: ''Enable all children, young people and adults to maximize their capabilities and have control over their lives''.

The ongoing Swiss Survey of Adolescents (CH-X) is an example linking this objective with the kind of empirical research mentioned above. The survey provides a unique data set of some 30,000 interviews per wave with male respondents from all social strata between 18 and 25 with Swiss citizenship enrolled during mandatory conscription in 2010/11. Furthermore, the data set contains an additional mail survey of some 1,500 young Swiss females and a monitoring of the social determinants of health in 2010/11, 2014/15 and 2018/19.

In the core indicator part of this study we explore the health and health behaviours of a whole generation of young Swiss people. But we also go beyond description and analyse how health and health behaviours are linked to the social and cultural resources and the capabilities these young people have in life.

Fig. 3 shows the main explanatory model in our study of the social determinants of health: Socio-Economic Position (SEP) is associated with the availability of economic, cultural and social capital: the interplay of the three different types of capital makes the resources work for health advantages. This leads to a variety of options and determines the range to choose from. This in turn leads to diverse chances and probably of living a healthy life (achieved functionings).

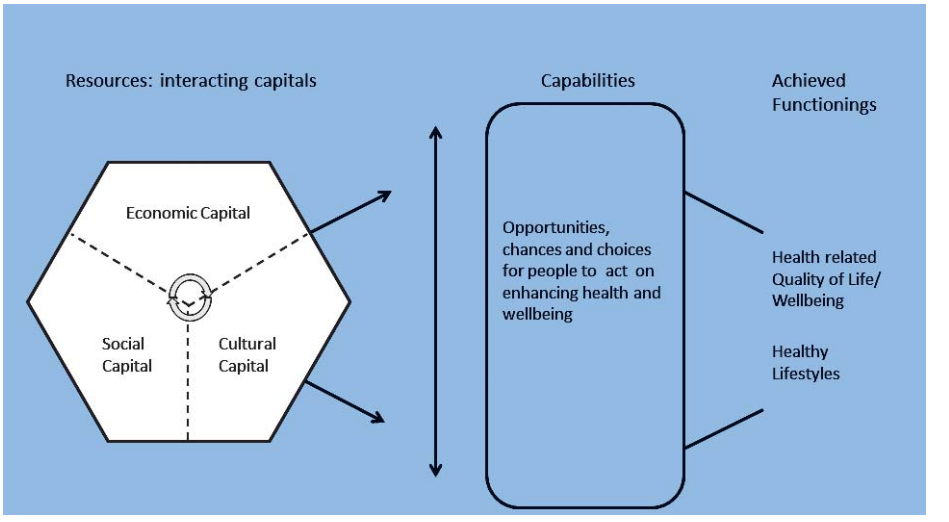

Fig. 3. Capital - Capabilities - Health.

Of the several unique methodological features of this study let me just mention two:

1) Besides rather large case numbers, this study includes sufficiently large numbers of young people from *all* social strata, allowing us to explore the effects on all steps of the social ladder.

To operationalize the different types of capital, we measured, among others, the following items:

– One's own and parents' education
– Number of books in the family
– One's own and parents' financial situation
– Options to borrow money from one's social network
– Parents' social connections.

We thus applied established measures of cultural capital, such as educational degrees, but also more innovative indicators, such as number of books in the family or health values in the family. Our first analyses show, for instance, that cultural capital and a healthy lifestyle in the family are both associated with young adults' smoking habits.

2) The data comes from a repeated cross sectional study. Thus, it is very different from the often cited individual – based cohort studies which, however, focus on and follow individuals. Our data will allow us to focus primarily on the social conditions of health and consequently how the social determinants of health (not the individuals) change over time.

To operationalize the capabilities we applied two lists of capabilities and achievements. The lists assessed, among other things, young people's perceived options to, e.g.:

– achieve things in my life
– live a healthy life for my age
– form satisfying social relations in my life.

Here the first findings show significant associations between family economic capital, the perceived options to live a healthy life and young people's health status.

These examples are an illustration of how social theory can provide guidance in the production of new kinds of data, data on the social processes which are located at the roots of the social determinants of health.

Conclusions

1) There are conclusive data from many countries around the world that show that health is systematically linked to people's socio-economic position (their rank on the social ladder).
2) There is convincing data in the literature showing that this link is largely due to the inequitable (unequal and unfair) distribution of social resources throughout our societies.
3) The understanding of the social processes which link socio-economic position, resources and health needs to be improved; thus my call for improved social theory on the social determinants of health.
4) As societies produce the health *of* the people *through and with* the people, we should work towards a better understanding of how people's social agency is working in the reproduction of structural health inequalities.

According to the above, it is safe to say that – especially with the work of Michael Marmot and his colleagues – we now have sufficient evidence that social determinants are affecting the health of our societies in prevailing patterns and to a huge extent.

But it is also safe to say that next we need to improve our knowledge base on *how* our societies produce and reproduce the structures that bring to bear the social determinants of health.

We need more knowledge of the underlying social processes, not to keep health researchers busy, but to make public health interventions on the social determinants of health stronger and achieve fairer societies with healthier people.

This study is supported by the Swiss National Science Foundation: grant no. 105313_130068_/1.

DISCUSSION AND QUESTIONS

Mike Martin: Thank you very much, Thomas Abel, for this very specific and complete presentation which I think also gave an insight into the fact that there can be a competition of different concepts of health. (To the audience): So now if you have or care to make a statement or comment on what has been said or have questions, feel free to go ahead.

Question from the audience: Thank you. I would just like to ask Sir Michael if he could say a bit more about Marmot's Champions. It's pretty unlikely that real redistribution of wealth will ever happen in Britain. You may have read *The Guardian* today. Nick Clegg suggests it might be a good idea; George Osborne said "No thanks". I don't want to drive the wealth creators out of our country, but what I found encouraging is that you seem to be optimistic that even without spending a lot of money, at a local level, changes can be made. Could you say in concrete terms what that involves? Are local authorities encouraging parents to read to their children? What are these Champions actually doing?

Michael Marmot: That's a good question. While we're waiting for national policy to change, we have been going round the country. At last count, we had 39 local authorities that have Marmot implementation plans. So they've taken our six domains of recommendations, and they're developing detailed implementation plans. Now that might be, for example, making sure that sure-start children centres do not close. We know that funding is tight in local government, but those local cities that have taken us on board say we need to put high priority on children's centres. We know, for example, that cities in Wales have actually reduced the violence related to unemployment. They've actually taken real steps in looking at the trouble that young people get into

when they're unemployed and are actually trying to do something about the drugs and alcohol associated with unemployment. They say ''How can we do this?'' Looking at employment possibilities – that's difficult in relation to the national context. In fact, the person in the Department of Health who has responsibility for overseeing the development of the so-called health and well-being boards, which are partnerships between public health and local government, said he thinks that all health and well-being boards in the country should have the Marmot Six as their focus. So there's a variety of ways that this is being picked up. It's a way of actually reporting back to central government and saying ''Look what's happening at the local level''. Now, being in Switzerland, I don't have to convince people how important government action is below the national level. It's built-in; it's hard-wired into the Swiss DNA to take action at the cantonal level... London has issued a health inequality strategy based on my review. So we're getting a lot of take-up from local government, which is really encouraging.

Comment from the audience: About five years ago, in America a book was published with the title *The Apple Doesn't Fall Far from the Tree*, which deals with social mobility in the US. We have always thought here on the continent that in the US it was quite high. The book concludes instead that it is very low indeed. So from that perspective social mobility is not going to be part of the solution. Therefore we are back to square one, where you started.

Michael Marmot: Well, forgive me giving you a parochial British example of this discussion, but I've spent a lot of time in the wake of my English review, now more European in focus because of the European review, looking at this. Recently I went to a discussion on social mobility in Britain which had leading academics and civil servants representing the Cabinet Office, and so on, present. We currently have coalition partners in government. The Liberal Democrat partners in the coalition have made social mobility a centrepiece. A professor of sociology from Oxford was there, a terrific person who was chairing this debate. He said there are two forms of social mobility. One you could call ''who's up'' and ''who's down'' and the other a much more structural measure: improving things for society. He said ''I think we should neglect the

second and only talk about the first, given the present context". I replied "We have the highest teenage pregnancy rates in Europe – in Britain and if we only went with your approach, it would be like giving every fourteen year old girl an equal chance to have a baby – the ones that come from professional backgrounds and the ones that come from unemployed ones. You know, who's up and who's down. Don't we want to do something about teenage pregnancy rates?

Don't we actually want to improve? We've got the highest adolescent obesity rates in Europe. We've got the highest rates of fifteen year olds abusing alcohol in Europe and you effectively want to give every young person an equal chance to be pregnant, to be doing drugs, to be doing alcohol, to be overweight. What sort of approach is this to the world?" I could see the civil servants quietly applauding me, because they've been told: don't touch structural change. Don't touch it. Instead they ara somehow to magic social mobility into action without doing anything about income inequalities, without doing anything about life chances.

In the US the apple doesn't fall very far from the tree, but it does in Denmark! And it does in Finland – it doesn't matter who your parents are to your chances of becoming a doctor. It doesn't in Chile. President Lagos of Chile, who became a member of the Global Commission after his term as president said "In Chile today – the majority of young people going to university are the first members of their family ever to go to university". They made a huge difference. So it may be that if you run a rotten system with entrenched inequalities, and never have the will to do anything about it, the apple doesn't fall very far from the tree. In Chile, it's fallen a long way from the tree. The children of manual workers are graduating from university. So we can make a huge difference.

Question by Thomas Abel: The concept of empowerment seems key in your thought, and you have already told us about the reactions of some governments. We have, of course, many different interpretations of what empowerment is. Psychologists tend to reduce it to healthy behaviours. We empower individuals to go out and jog. I wonder, actually, what your understanding of empowerment is from a social determinants of health perspective, and the reason I ask this question actually is if you now provide a perfect answer, we should write it down

and get it published, because this is so badly needed in the field – a definition of empowerment from a social determinants of health perspective. So, perhaps you could have a try now?

Michael Marmot: Well, firstly, the idea that anything I ever said was perfect is far too daunting a prospect, so... rather what we have said is that we think of empowerment as having three dimensions. The first is material. If you don't have the material resourses to feed your children, how can you be empowered? The second is psycho-social, and that is more in the way you exert control over your life. However, that shouldn't be seen – and it relates to your structure agency comment – simply as a property of the individual. I've argued with Conservative government ministers in Britain on this, and they agree that people having control is important. However, I respond, it doesn't come out of the blue. It doesn't come from nowhere. Forgive me, a few years ago, I did a piece for *The Lancet* on a book on philosophy, and I began with Puccini's opera *Turandot*. If you remember the plot, the candidates for Turandot's hand have to answer three riddles. If they answer the three riddles correctly, they gain marriage to the princess. Fail, and they're executed. The result of this is a trail of dead suitors and one chaste princess, until of course the tenor arrives. Tenors usually spell the end of the soprano's chastity, but that's the way opera works. So with a trail of dead suitors and one chaste princess, one could say that's a fair choice. The suitors took control of their lives, they made an informed choice, and they decided to go for it. Well, we don't rig affairs in society this way today, we don't say executing someone for the fair maiden's hand is a fair thing to do. In fact, choice is very much conditioned by the conditions in which people find themselves. Having control over your life doesn't come if you don't have good early child development and education, so the psychosocial concept of control does not let you off the hook in addressing social conditions. The third way we thought of empowerment was political, having a voice. If at the community level your voice doesn't count, your community doesn't count. If at the country level your voice doesn't count there will be problems. Think of the World Trade Organization and how that works. So our approach to empowerment is material, psycho-social and political – having a voice.

Question from the audience: What you've said must have been true all throughout history. Why is it that now you see a possibility for change? Or if you're pessimistic, or if I'm pessimistic, why should we expect change out of something that has been a state of humanity for millennia?

Michael Marmot: That's an excellent question and I've asked myself that question and in all honesty, I don't really know the answer. However, let me start with Rudolf Virchow. Let me go back to the 19th century. Virchow understood how society functioned; he understood the political nature of medicine and medical decisions; he understood that mass diseases arise from social organization; he understood all that. He came out of his laboratory, lifted up his gaze and saw how the world worked. We're very grateful to those insights. Now let me take a narrower slice of history. The Alma-Ata Declaration in 1978 – health for all by the year 2000. When I went back and read it, it said quite a lot about social determinants of health, but it was pretty slim. I gave a presentation at the European Commission after we published the CSDH – the Commission on Social Determinants of Health – and the first question these Eurocrats asked me was "How is this different from Alma-Ata?" I replied: "Firstly, even if it were no different from Alma-Ata, it's worth saying again. Because look what we actually did after Alma-Ata. We went galloping off... the whole cohort, World Bank, the International Monetary Fund, with neo-liberal policies, structural readjustment, Washington consensus, deregulation, liberalization, market mechanisms, privatization, etc., etc., and caused huge damage, which has been very well documented. So it's important to say it again. Second, there's a huge amount of evidence that has accumulated in the last 30 years. We know a lot more. When people started talking to me about early child development, I said "Don't bother me, I'm studying grown-ups; I'm studying civil servants and middle-aged people and older people. Don't bother me with that". And I've become a convert, because people put the evidence in front of me – the evidence of how the brain gets restructured in early childhood. Deprivation actually changes brain structures. Violence changes brain structures – violence in childhood. There's a huge amount of new evidence, and I think it's worth saying again. I think the fact that the Director General at WHO commissioned me to do this – J.W. Lee

was the director at the time – essentially was a statement that he felt the time was right, and he could get away with it, as it were. There was sufficient political interest in this at the UN. So I think partly it's a failure of previous policies, partly it's an accumulation of evidence. However, my optimism is not blind optimism. I'm looking at what we have and haven't done in the wake of the 2008 global financial crisis, and I think there's a lot of heavy lifting to do; there's a lot of hard intellectual work to do to address what went wrong. Now, what have we learned from that crisis? My worry is we haven't learned enough. I just read a book by one of Mrs. Thatcher's political advisors, where the author says "This inequality has gone too far! It's quite wrong. We're letting these oligarchs who run the big banks get away with murder, and we've got to stop it". Good heavens! When an advisor to Margaret Thatcher says inequality has gone too far, that we've let the market get away with too much, I think there is a moment there, and we've got to seize that moment.

Mike Martin: Thank you very much, Michael Marmot. I think that was an excellent final summing up, and actually illustrated what you said earlier, that you're an evidence-based optimist, and so always arguing the scientific way. I think both of you, Michael and Thomas, have also presented us with a new challenge, basically. You have defined interesting problems, not only scientifically, but obviously also politically and in terms of our own actions. So I'd like to thank you for the presentation and the comments, and you, the audience, for your comments and questions. I want to thank the organizers, the people behind the scenes at the Swiss Academies of Arts and Sciences, at the Gerontology Centre, the University of Zurich and the Balzan Foundation for supporting such a relevant event, and thank you all for coming.

Michael Marmot

A BIOGRAPHY

Professor Sir Michael Gideon Marmot MBBS, MPH, PhD, FRCP, FFPHM, FMedSci, born on 26 January 1945, is a British citizen.

He is MRC Research Professor of Epidemiology and Public Health, Director of the International Institute for Society and Health, and Director of the Institute of Health Equity, University College London. He also holds the position of Adjunct Professor in the Department of Society, Human Development and Health at Harvard University.

Graduating in Medicine from the University of Sydney, Australia, in 1968, he earned an MPH in 1972 and a PhD in 1975 from the University of California, Berkeley. Lecturer, then Senior Lecturer in Epidemiology at the London School of Hygiene and Tropical Medicine (1976-1985), he was appointed Professor of Epidemiology and Public Health at the University College London (UCL) in 1985 and took a joint Chair, held at UCL and the London School of Hygiene and Tropical Medicine in 1990. He became Director of the International Centre for Health and Society established at UCL in 1994 (now the International Institute for Society and Health).

Professor Michael Marmot has led a research group on health inequalities for 35 years. He is Principal Investigator on the Whitehall II Studies on British Civil Servants, investigating explanations for the striking inverse social gradient in morbidity and mortality. He leads the English Longitudinal Study of Ageing (ELSA) and is engaged in several international research efforts on the social determinants of health. He was a member of the Royal Commission on Environmental Pollution for six years, and served as President of the British Medical Association (BMA) in 2010-2011. He is a Founding Fellow of the Academy of Medical Sciences, an Honorary Fellow of the British Academy, and an Honorary Fellow of the Faculty of Public Health of the

Royal College of Physicians. In 2000 he was knighted by Her Majesty The Queen for services to Epidemiology and the understanding of health inequalities. Internationally acclaimed, Sir Michael Marmot is a Foreign Associate Member of the Institute of Medicine (IOM) of the National Academies (USA), and a former Vice President of the Academia Europaea. He gave the Harveian Oration in 2006. He was Chair of the Commission on Social Determinants of Health (CSDH), which was set up by the World Health Organization (WHO) in 2005, and produced the report entitled: *Closing the Gap in a Generation* in August 2008. At the request of the British Government, he conducted the ''Strategic Review of Health Inequalities in England post 2010'', which published its report *Fair Society, Healthy Lives* in February 2010. He has now been invited by the Regional Director of WHO Europe to conduct the ''European Review of Social Determinants of Health and the Health Divide'', which will report in September 2012. He has agreed to chair the ''Breast Screening Review'' for the NHS National Cancer Action Team. He is a member of The Lancet-University of Oslo Commission on Global Governance for Health.

Professor Marmot has given a great number of lectures and keynote addresses at international conferences over the last several years. He has published substantially, with a number of monographs and co-edited volumes to his name as well as innumerable scientific papers. For a full list of his publications see:

http://www.ucl.ac.uk/slms/people/show.php?personid=11901.

Balzan Research Project

UCL BALZAN INTERNATIONAL FELLOWSHIP PROGRAMME UNIVERSITY COLLEGE LONDON

Adviser for the General Balzan Prize Committee: Werner Stauffacher

As initiator of the era of social epidemiology and a pioneer in the development of a wholly new concept of preventive medicine, Michael Marmot is using half of his Balzan Prize for a new programme of international fellowships at University College London's International Institute for Society and Health. The Institute was founded in 2007 to bring together strong individual research programmes on the determinants of health and well-being in society. Multidisciplinary and international in scope, the Institute is unequalled in offering opportunities for research and interdisciplinary research experience for young scholars. The international fellowships have two key objectives in Michael Marmot's field of scientific interest: research experience in the social determinants of health and well-being, and the fostering of international networks of research and policy development. The aim is to develop the next cadre of researchers for the future and to benefit from the clear advantages that international collaboration brings.

– Dr. Kavita Sivaramakrishnan (Public Health Foundation of India) and Dr. Rama Baru (Jawaharlal Nehru University, Delhi, India) have jointly written a paper for "The National Medical Journal of India" entitled *The Commission on Social Determinants of Health: Mainstreaming social inequalities in public health education in India*. They presented a version of this paper at a UCL conference "The World Health Organization and the Social Determinants of Health: Assessing Theory, Policy and Practice" in November 2008.

– Dr. Krisztina László (Semmelweis University, Budapest, Hungary) has successfully published her paper *Job insecurity and health: A study of*

16 European countries in ''Social Science and Medicine'' (with Hynek Pikhart, Mária S. Kopp, Martin Bobak, Andrzej Pajak, Sofia Malyutina, Gyöngyvér Salavecz, Michael Marmot; Soc Sci Med. 2010 March; 70(6-3): 867-874). She presented results from this study to the American Psychosomatic Society Conference in Chicago in March 2009.

– Dr. Nelly Salgado (National Institute of Public Health, Cuernavaca, Mexico) has developed a short course on the Social Determinants of Health (with Tarani Chandola and Roberto De Vogli) for her Institute. The course took place in August 10-15, 2009 in Cuernavaca, Mexico, with over 40 public health academics and practitioners from all over Latin America.

– Dr. Alex Gaina (University of Toyama, Japan) has submitted several papers on the social determinants of child obesity and development using data from the Toyama Birth Cohort Study. He participated in the International conference on Health and the Changing World in November 2008 in Bangkok, with a presentation on SES and health among Japanese schoolchildren. His work on maternal employment and child obesity in Japan has been published in the ''International Journal of Obesity''.

– Dr. Sergio Luiz Bassanesi (Universidade Federal do Rio Grande do Sul – UFRGS, Brazil) joined the department in January 2009 for 12 months. He is a medical doctor, with residency medical training in cardiology. Dr. Bassanesi was also trained in public health (Fundacao Oswaldo Cruz, Brazil). He received his Master of Public Health degree from Johns Hopkins University, USA, and received his PhD in Medicine from UFRGS, Brazil. Dr. Bassanesi's research area for the Balzan fellowship is related to socioeconomic urban segregation and its impact on health. He also has been working on the measurements of socio-economic health disparities, especially in relation to cardiovascular mortality. He has also collaborated on epidemiological and clinical studies on tuberculosis. During his stay at UCL, Dr. Bassanesi was a coapplicant on a successful application to the Economic and Social Research Council on spatial and social inequalities in health in Brazil and India.

– Dr. Adrienne Stauder (Semmelweis University, Budapest, Hungary) joined the department for a period of three months (April 2009-July

2009). A senior researcher, psychiatrist and psychotherapist, her residency was proposed to explore opportunities for increased data analysis of extant Central and Eastern European data on inequalities, the potential to develop collaborative database analysis and collaborative data collection, and the opportunities for new research questions on protective factors.

– Dr. Eleonor Fransson (Jönköping University, Sweden) resided at UCL for five months (September 2009-February 2010). A Postdoctoral Fellow, Dr. Fransson earned her PhD from the Karolinska Institute and an MSc in Statistics from Stockholm University. Her period at UCL allowed her to work on Whitehall II data, and more specifically, on the relationship between BMI/WHR and inflammatory markers, thereby developing her skills and increasing her international contacts.

– Ms. Gyöngyvér Salavecz (Semmelweis University, Budapest, Hungary) spent September 2009, February 2010 and May 2010 in the department. Working on the cross cultural consistency of associations between positive effect and cortisol and heart rate variability, her periodic residency has both provided a training opportunity for her as well as supported increased collaboration between UCL, Princeton and Semmelweis University. She also completed a paper *Work Stress and Health in Western European and in Post-communist Countries: an East-West Comparison Study* (coauthored by T. Chandola, H. Pikhart, N. Dragano, J. Siegrist, K.H. Jockel, R. Erbel, S. Malyutina, A. Pajak, R. Kubinova, M. Marmot, M. Bobak, M. Kopp; "Journal of Epidemiology and Community Health" 2010; 64: 57-62) during her stay at UCL.

– Professor Philippa Howden-Chapman (University of Otago, Wellington, New Zealand) joined the department in January 2010 for a period of five months. Her expertise on the effect of housing conditions on health has resulted in discussions of housing as a neglected but crucial social determinant of healthy ageing and possibilities of housing conditions data collection in the ageing cohort studies at UCL.

Researchers

Dr. Rama Baru (Jawaharlal Nehru University, Delhi, India)
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Dr. Eleonor Fransson (Jönköping University, Sweden)
Dr. Alex Gaina (University of Toyama, Japan)
Professor Philippa Howden-Chapman (University of Otago, Wellington, New Zealand)
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Ms. Gyöngyvér Salavecz (Semmelweis University, Budapest, Hungary)
Dr. Nelly Salgado (National Institute of Public Health, Cuernavaca, Mexico)
Dr. Kavita Sivaramakrishnan (Public Health Foundation of India)
Dr. Adrienne Stauder (Semmelweis University, Budapest, Hungary)

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– Salavecz G., Chandola T., Pikhart H., Dragano N., Siegrist J., Jockel K.H., Erbel R., Malyutina S., Pajak A., Kubinova R., Marmot M., Bobak M. and Kopp M., *Work Stress and Health in Western European and in Post-communist countries: an East-West Comparison Study*, «Journal of Epidemiology and Community Health», 2010; 64:57-62.
– Gaina A., Sekine M., Chandola T., Marmot M. and Kagamimori S., *Mother employment status and nutritional patterns in Japanese junior high schoolchildren*, «International Journal of Obesity», 2009; 33(7): 753-7.
– Baru R.V. and Sivaramakrishnan K., *The Commission on Social Determinants of Health: Mainstreaming social inequalities in public health education in India*, «The National Medical Journal of India», 2007; 22(1): 33-4.

Website: http://www.ucl.ac.uk/iish/fellowships