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Wahlberg, Ayo

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Measuring progress: calculating the life of nations

Ayo Wahlberg

In recent years, sociological examinations of genetics, therapeutic cloning, neuroscience and tissue engineering have suggested that 'life itself' is currently being transformed through technique with profound implications for the ways in which we understand and govern ourselves and others. In this paper, I argue that a growing focus on frontier technologies in the life sciences in discussions about bio-power today has come at the cost of empirical investigations into how, for example, 'quality of life' came to be a crucial object of bio-power in the 20th century. Just as Foucault outlined the emergence of a multiple body – the population – in the 18th century, I suggest, building on work by Rose, Rabinow and Hacking, that we can also discern the emergence of a multiple subjectivity – state of civilisation, public opinion, human capability, national attitudes, culture – as scientific and political problem. If bio-politics deals with the population as a biological and political problem, then what we might think of as an anthropo-politics deals with a collective subjectivity as a psychological, sociological and/or anthropological problem that can be measured, mapped out and intervened upon in much the same way that mortality rates, life expectancy or morbidity rates can. By analysing the concrete ways in which human progress has been globally measured and taxonomised in the past two centuries or so, I will show how global stratifications of countries according to their states of 'civilisation', 'development' and more recently 'human capability', have relied not just on the population as biological object, but also on a collective subjectivity. Using this analysis, I will go on to conclude that the politics of life is in no way limited to biological contestations and problems, but equally importantly includes psychological, sociological and anthropological problematisations about what a 'good', 'healthy' or 'quality' life is and how they might be measured.

Keywords: Bio-power; Foucault; human capability; human progress; life; population; quality of life; subjectivity.

Introduction

If global life expectancy and population statistics are anything to go by then it cannot be said that 'a modern way of life' is killing people in any kind of general sense. By most estimates, the vast majority of nations have experienced dramatic advances in longevity over the past century or so, with a doubling of the global average number of years a newborn can expect to live from about 30 to 60 and a tripling of the world's population from about two to six billion. While such numbers certainly disregard the impoverished misery of billions,[1] and there is much debate over just what factors can be said to account for these advances (public hygiene, modern medicine, nutrition, vaccination, urban planning or the treatment of water and sewage), it seems that over the course of the 19th and 20th centuries, human life mechanisms came to be worked upon and protected in ways that have allowed for increasingly longer living.

It was of course Foucault (1978) who suggested that one of the crucial forms modern rationalities and practices of government have taken since the 18th century has been a *bio-power* which came to organise the task of administering life, as life and its mechanisms were brought into a realm of explicit calculations, the object of expert bodies of anatomical and biological knowledge. As such, he argued, it is a power exercised at the level of life, which, on the one hand, 'exerts a positive influence on life… endeavour[ing] to administer, optimise, and multiply it, subjecting it to precise controls and comprehensive regulations', yet on the other, can be 'mobilized for the purpose of wholesale slaughter in the name of life necessity' as happened in the devastating 20th century holocausts and genocides (Foucault, 1978: 136–7). When Foucault suggested that 'massacres have become vital' (1978: 137) he was pointing out how the eugenic sterilisation, confinement or wiping out of entire sub-populations in the 20th century were often wound up in biological and hereditary debates about the 'quality' or 'stock' of a nation's population. As Rabinow and Rose have put it: 'racism allows power to subdivide a population into subspecies, to designate these in terms of a biological substrate, and to initiate and sustain an array of dynamic relations in which the exclusion, incarceration or death of those who are inferior can be seen as something that will make life in general healthier and purer' (2006: 201; see also Koch, 2004). And so for all the life advances that have been made possible in the past centuries, the bloody effects of bio-power unquestionably stand as one of the most sinister by-products of modernity having left a trail of gruesome fatalities in the millions (see Agamben, 1998; Bauman, 1989; Dean, 1999; Rabinow and Rose, 2006).

At the same time, by the latter half of the 20th century, doubts were increasingly being voiced as to whether processes of industrialisation, bureaucratisation and rationalisation – hitherto so central in the circulation and operation of a disciplinary and regularising bio-power –

were in fact exerting a purely positive influence on peaceful life. For, notwithstanding measurable advances in a range of life indicators (death rates, infant mortality rates, maternal mortality rates, life expectancy), it seemed that Mankind's newfound longevity had come at a cost. In becoming mundane, it was argued, modern living had spawned a range of debilitating side effects in the form of a dehumanising alienation and an enfeeblement of the body's biological life mechanisms via pollution and toxins. Even if the optimisation of biological processes was allowing people to live *longer*, they were at the same time being zombified into 'unfeeling spectators of our own decaying selves', left exposed in 'unbreathable air,... polluted streams' and a growing chemical 'sea of carcinogens [as]… toxic materials become lodged in all the fatty tissues of the body', while also subjected to the painfully 'addictive, mutilating and mutagenic' side effects of modern pharmaceuticals (Carson, 1962: 213, 170; Galbraith, 1958: 192, 194; Illich, 1976: 154, 28). In this kind of modernisation critique, it was not so much that modern living was killing people off – although this argument certainly continues to be put forward in situations where pollutants and toxins are directly or indirectly held responsible for human fatalities as well as in terms of a looming ecological threat to humanity's future on this planet; rather, what emerged out of these various critiques was a new component of life which it was argued had been hitherto neglected by a reductionist and disciplining modernisation: our 'quality of life'.[2] What such critiques have served well to remind us is that there is more to *life* as a political problem than biology, longevity and mortality.

There are two important points that I will be arguing in this paper. Firstly, that bio-power is not solely a field in which biological contestations and problematisations about life and its mechanisms circulate. Late 20th-century developments within the life sciences, especially biotechnology, have led a number of social theorists to look at how bio-power is currently being refigured by so-called frontier technologies such as genetics, tissue engineering or cloning as they remake life itself through technique thus making it 'artificial' (see Franklin, Stacey and Lury, 2000; Rabinow, 1999; Rabinow and Rose, 2006; Rose, 2001; 2006; Shiva, 1997). It is these attempts to engineer life that are seen as generative of bio-value and therefore as drivers of bio-capital accumulation in an emergent field of bio-economics. What I will be arguing in the following is that we should not forget that not only has bio-power created conditions in which it becomes possible to discipline, optimise the capacities of, extort the forces of and more recently enhance *bodies*, it has also allowed for these same tasks to be performed on *subjectivities* as part of overall life-administering interventions.

Secondly, by showing how bodies and subjectivities in their aggregate forms have manifest themselves in the changing ways that human progress has been empirically measured

and taxonomised on *a global scale* since the 19th century, I will argue that bio-power not only concerns mortality rates, life expectancy or birth rates, but also given populations' states of 'civilisation', 'development', 'human capability' or 'quality of life'. In the second part of the paper I will show how the evolutionary civilisational population taxonomies (savages, barbarians, civilised) of the 19th century were gradually rejected in favour of 'depoliticised' developmental taxonomies (Third World, Second World, First World) in the early to mid-20th century as the sciences of epidemiology, demographics and national accounting were increasingly applied globally. Such developmental taxonomies have, in turn, recently been challenged by capability, happiness and quality of life taxonomies in the latter half of the 20th century. These changing forms of taxonomy, however, should not be seen as gradual shifts away from *bio*-power, rather they should be seen as examples of how transformations resulting from the probing, investigating, calculating and mapping out of life at the level of populations have always involved both bodies and subjectivities.

Bio-power, bodies and subjectivities

In *Discipline and Punish*, Foucault famously accounted for what he saw as the swarming of anatomo-political disciplinary technologies centred around the individual body during the course of the 17th and 18th centuries (1977: 211–28). These were devices used to secure the spatial distribution and organisation of bodies through surveillance, training, exercise, bookkeeping, reporting and monitoring as a means of extracting and guiding their productive forces. A year later, in the final lecture of a course entitled 'Society Must be Defended', Foucault suggested that 'we see something new emerging in the second half of the eighteenth century: a new technology of power… addressed to a multiplicity of men, not to the extent that they are nothing more than their individual bodies, but to the extent that they form, on the contrary, a global mass that is affected by overall processes characteristic of birth, death, production, illness, and so on' (Foucault, 2003: 242–4). What he was pointing out, of course, was the birth of what he would later call the second pole of bio-power, a regularising *bio-politics* characterised not by techniques of surveillance and distribution targeted at individual bodies, but by techniques to monitor, modify and adjust collective birth rates, fertility rates, national productivity, endemics and death rates.

In distinguishing this new regularising bio-politics from a disciplining anatomo-politics, Foucault argued that:

> what we are dealing with in this new technology of power is not exactly society… nor is it the individual-as-body. It is a new body, a multiple body, a body with so

> many heads that, while they might not be infinite in number, cannot necessarily be counted. Bio-politics deals with the population as political problem, as a problem that is at once scientific and political, as a biological problem and as power's problem. (2003: 245)

And as has been shown, the sciences of demographics, epidemiology and national accounting would take on an increasing importance from this moment onwards in the formulation of public hygiene campaigns throughout Europe, 'civilising' programmes in the colonies as well as natalist policies for influencing birth and fertility rates (Arnold, 1993; Rosen, 1993). As the 19th century wore on, a nation's population became an object in its own right, something to be studied and manipulated, its fluctuations and movements to be monitored and controlled in the name of human progress.

It is this focus on the biological that has been picked up on in recent discussions about and empirical investigations of bio-power, bio-politics and bio-capital, no doubt with good reason. Both poles of bio-power, Foucault suggested, address the body – as individual anatomical machine and as collective biological species. Yet, if anatomo-political disciplinary technologies produced docile bodies and bio-political regularising technologies produced malleable populations, such bodies and populations were of course never devoid of a subjectivity. Indeed disciplinary technologies such as that of the panopticon counted on an individual's capacities for self-reflection and it was exactly with the help of such disciplinary techniques, Foucault argued, that the human sciences would eventually emerge as they sought to map out and characterise Man's interiority in a systematised fashion. The methods of punishment, supervision and constraint that were developed in the schools, armies, hospitals, factories and prisons of bureaucratised, industrialised and colonised societies, contributed in a very real and material sense to the making up of the 'modern soul';

> produced permanently around, on, within the body by the functioning of a power that is exercised on those punished – and, in a more general way, on those one supervises, trains and corrects, over madmen, children at home and at school, the colonised, over those who are stuck at a machine and supervised for the rest of their lives. (Foucault, 1977: 29; cf. also Hacking, 2002; Rose, 1999)

However much focus has been directed at the body and the biological in studies of bio-power, it is clear that, ever since its emergence, it has relied not just on bodies but also on subjectivities, in

both their individual and aggregate forms. What is the point of making such a distinction between bodies and subjectivities, especially considering its apparent invoking of a Cartesian dualism between a material body and an immaterial mind? The distinction is important because it reminds us that there are different *objects* at stake in the life-administering operations that characterise bio-power today. Subjectivity – the modern soul – is an object particular to modernity in the sense that since the end of the 18th century, we have seen the emergence of an entire plethora of expert bodies of knowledge often clustered together under the headings of human and social sciences – psychology, sociology, anthropology, social psychology, etc. – that have sought to map out Man's interiority in terms of languages, faculties, drives, identities, attitudes, capabilities, personalities, world views, cultures, lifeworlds or values. It is during the course of this governmentalisation of human interiority that the modern soul emerged, an object which could be mapped out, measured and monitored over time.[3] However non-corporal, subjectivities are certainly not 'immaterial' as they have arisen out of a series of concrete techniques (e.g. of punishment, healing, educating, 'civilising', developing, training, etc.) and of social scientific methodologies (e.g. observation, interviewing, opinion surveying, IQ testing, questionnaires, self-rating forms, etc.) (see Osborne and Rose, 1999; Rose, 1999).

And so, just as Foucault distinguished between an anatomo-politics of the body and a bio-politics of the population, a similar distinction might also be made between a psy-politics of human subjectivity and an anthropo-politics[4] of collective subjectivity – subjectivity as psychological 'mechanism' and as sociological/anthropological 'species' or 'kind'. As Rose has shown, the psy-sciences have played a central role in the development of 'new languages for speaking about subjectivity, and new techniques for inscribing it, measuring it, and acting upon it' (1999: xxviii). Such psy-political techniques have addressed human interiority as an intimate site particular to each individual, yet characterisable in terms of different 'kinds' (Hacking, 1995) of personalities, identities, drives or capacities and have been generative of a host of techniques of subjectification aimed at intervening upon, normalising and/or harnessing individual subjectivities.

Now, in tandem with the swarming of interrelated anatomo-political techniques of the body and psy-political techniques of the modern soul during the course of the 18th, 19th and 20th centuries (see Foucault, 1977; Rose, 1996b; 1999), we have also seen the emergence of not just a multiple body, but also a multiple subjectivity as both scientific and political problem. Through a proliferation of 'civilising' programmes, awareness-raising campaigns, wartime 'morale propaganda', cultural revival techniques, capacity-building initiatives and crusades against unhealthy lifestyles, what might be thought of as an anthropo-politics came to address a

collective subjectivity which could be mapped out in terms of states of civilisation, morale, popular beliefs, national attitudes, public understanding, cultural values or human capabilities. If bio-politics deals with the population as a biological and political problem, anthropo-politics deals with a collective subjectivity as a psychological, sociological and/or anthropological problem that can be measured, mapped out and intervened upon in much the same way that mortality rates, life expectancy or morbidity rates can. Subjectivities *and* bodies in their aggregated, multiple forms are concurrent targets of the kind of life-optimising interventions that bio-power has made possible. As I will show, it is not only life expectancy or infant mortality rates that can be measured and manipulated, it is also 'national human capability', 'healthy life expectancy', 'year-on-year increase[s] in awareness', or the 'increased number of healthy choices made' (Great Britain Department of Health, 2004: 22, 7; UNDP, 1990; WHO, 2000).

Bio-power, Foucault argued, was indispensable to the development of capitalism as it allowed for the harnessing, disciplining and optimising of bodies in the service of production – 'methods for administering the accumulation of men' (Foucault, 1977: 220). What I will be arguing in the following is that bodies have not been the only object at stake in these developments; rather, the harnessing and optimising of subjectivities have been equally important components of these methods for administering the accumulation of men. I will now turn my attention towards how this broadened conceptualisation of bio-power can be helpful in accounting for the many different ways in which human progress has been measured and calculated on a global scale in the past few centuries. More specifically, I will argue that teleologies of collective maturation, longevity and development have recently been joined, if not challenged, by teleologies of collective capability in global endeavours to define and calculate the life of nations over time.

'Civilising the savages'

Meticulously measuring, grading and predicting the progress of Mankind has been a consistent modern preoccupation since the Enlightenment. It is not that this preoccupation with human progress has been particularly unique to modernity, but the different ways in which human progress came to be defined and made calculable using particular markers to identify this progress over time have certainly been novel. As such, global gradations and rankings of civilisations, races and more recently nation states according to their respective stages of progress can be found scattered throughout the 19th and 20th centuries. One of the first of such modern rankings came at the height of the Enlightenment era, as travellers' accounts of the 'savages' and 'barbarians' of faraway lands poured into Europe. In 1777, Edmund Burke proposed to sketch

out a 'Great Map of Mankind' which he argued for the first time would allow the *status quo* classification of the world's various civilisations to double as a general history of the progress of Mankind:

> We need no longer go to History to trace [human nature] in all its stages and periods. History from its comparative youth is but a poor instructour… [N]ow the Great Map of Mankind is unrolled at once; and there is no state or Gradation of barbarism, and no mode of refinement which we have not at the same instant under our View. The very different Civility of Europe and of China; The barbarism of Persia and Abyssinia. The erratick manners of Tartary, and of Arabia. The Savage State of North America, and of New Zealand. (Burke and Copeland, 1958: 351)

Ever since, such gradations have served as modern templates for human progress, organised by what Condorcet (1955) in his 1795 *Sketch for a Historical Picture of the Progress of the Human Mind* argued was an 'indefinite perfectibility' of Mankind. In one of the first manifestations of an anthropo-politics of a collective subjectivity, nineteenth century civilisation taxonomies were dominated by metaphors of a child maturing into an adult, the argument being that 'child-like' savages were collectively 'immature' compared to the 'rational' civilised who were considered the adults of humanity (see Wahlberg, 2001; 2003). Classification systems which centred around such teleologies of maturation ranged from Morgan's (1877) three statuses of savagery, barbarism and civilisation, Comte's (1974) primitive, metaphysical and positive states of intellectual speculation to Spencer's gradated measurement of the mean capacities of aboriginal Australian, African, Malayan and English crania which he argued showed 'an increase in the course of the advance from the savage state to our present phase of civilization' (1972: 33). The animistic religions, 'monosyllabic' languages, 'superstitious' healing rituals and rudimentary tools of the savages were all taken as proofs of an immature people who were easily suggestible and rarely capable of 'deep thought' (Lubbock, 1875: 143).

In these first evolutionary civilisation classifications, biological life was considered an important enabling factor for human progress inasmuch as the almost exclusively subsistence mode of living of the savages left them with little time or need 'to stimulate the mental capacities, and to create the habit of industry – the fertile source of improvements' (Morgan, 1877: 42). Only through a slow process of chance discoveries and inventions could savages improve their sustaining skills thereby allowing a gradual transition from a nomadic to a pastoral and eventually 'a more sedentary and less strenuous form of life [that] afforded man leisure, [which] in turn

favoured the development of the human mind' (Condorcet, 1955: 19). Such progress, it was argued, was indefinite and self-sustaining since it incrementally 'gives the advantage to the highest human faculties, both by the security which sets free our attention from physical wants, and by the direct and steady excitement which it administers to the intellectual functions' (Comte, 1974: 516). In this way, the stimulated development of the human faculties and a more sedentary life could reinforce each other to secure human progress. Although there were fierce debates over whether or not a savage could be raised up the civilisation ladder during the course of his or her lifetime,[5] there was general agreement that over time a consistent tendency towards improvement and perfectibility in accordance with Darwinian, Lamarckian or Spencerian laws of evolution prevailed (Wahlberg, 2001). Even Marx and Engels, who gradated societies not in terms of their civilisation as such, but rather according to their tribal, primitive, feudal or capitalist forms of division of labour and property ownership, argued that as these forms developed through this series of teleological stages, a society's 'sheep-like or tribal consciousness receives… further development and extension through increased productivity, the increase of needs, and, what is fundamental to both of these, the increase of population' (1976: 20).

Such overtly evolutionary classifications so common in the 19th century would, of course, quickly fall into disrepute in the 20th century. The evolutionary hypothesis that savages were but immature and irrational children in the scale of human progress was directly disputed by a new kind of anthropological knowledge about 'primitive cultures' which based itself on cultural immersion, arguing that savages were highly rational and mature people operating in complex cultural, theistic, linguistic and intellectual landscapes (Malinowski, 1922; Rivers, 1924). As the painstaking and time-consuming ethnographic methods of participant observation, informant interviews and overall immersion fieldwork were developed and utilised by anthropologists, a new style of reasoning about the 'savage mind' emerged: 'savage man is no illogical or prelogical creature, … his actions are guided by reasoning as definite as that we can claim for our own… practices' (Rivers, 1924: 53). For example, concerning the medical practices of the 'primitives', Ackerknecht would argue that 'primitive medicine is not a queer collection of errors and superstitions, but a number of living units in living cultural patterns, quite able to function through the centuries in spite of their fundamental differences from our own pattern' (1971: 120).

'Raising the living standards of the poor'

This shift, however, did not in any way lead to a cessation of attempts to measure and gradate human progress. Instead, the early part of the 20th century saw the cumulative deployment, on a global scale, of a whole range of quantifiable and 'depoliticised' indicators to allow for the

measurement of progress and the classification of *nations* rather than civilisations, including national income, birth and death rates, life expectancy estimations and literacy rates. As bodies of demographic, epidemiologic and national accounting knowledge were increasingly applied globally in the early part of the 20th century, new models of what eventually came to be known as 'development' emerged. In these new bio-political taxonomies, stages of civilisation were replaced by stages of development which were linked to the average health (as reflected in life expectancy estimates and birth/death rates) and wealth (as reflected by national income per capita and annual economic growth) of a country's population.

Classifications according to levels of national development have included Thompson's (1929) demographic transition stages, Rostow's (1960) stages of economic development and Omran's (1971) stages of epidemiologic transition, each of which described how nations moved from traditional/pre-industrial to modern/industrial stages of population growth, economic development and disease patterns respectively. In setting out a global model of demographic transition based on individual nations' 'vital statistics', Thompson suggested that in the very poorest countries there will be 'almost a stationary population dependent upon the harshness of the "positive" checks to population growth, viz., disease, hunger, war, etc.', followed by 'such lands as are developing modern industry and sanitation [where] there is likely to be a very rapid increase in [population] numbers during the next few decades… as death-rates [come] under control faster than birth-rates' and finally industrialised countries where there will be 'very rapidly declining birth-rate and death-rate with the former declining more rapidly than the latter so that the rate of natural increase is also declining' (Thompson, 1929: 962). Picking up on this, Omran would, some decades later, formulate a 'theory of the epidemiology of population change', suggesting that all nations went through stages of 'Pestilence and Famine', 'Receding Pandemics' and finally 'Degenerative and Man-Made Diseases' as their demographic make up changed and life expectancy increased; and as such, they could be ranked accordingly (Omran, 1971).

Rostow, on the other hand, looked not so much at the demographics of nations as at their productivity and economic growth, arguing in his 'non-communist manifesto' that each country would have to go through five stages of growth to reach 'maturity'. Starting from 'traditional societies' where technology was crude and modes of production simple, a country would then go through a 'take off' stage, a 'drive to maturity' and finally an 'age of high mass-consumption' as technology advanced and economies became more complex (Rostow, 1960). Importantly, in each of these new gradations of the world's nation states, it was not so much the *peoples* of the 'less-developed' world who were considered primitive or immature, rather it was their economies, living conditions and modes of life organisation that were seen as rudimentary,

traditional or primitive compared to the complex, modern, sanitised and industrialised societies of the developed West. Consequently, rates of industrialisation, GNP per capita and economic growth became key yardsticks of progress – specifically because they were seen as positively correlated to marked decreases in death rates as well as subsequent decreases in birth rates.

As Escobar has shown, it was exactly in this post-WWII period that the World Bank would set the global poverty line at $100 annual per capita income, thereby transforming 'two-thirds of the world's peoples… into poor subjects' and eventually allowing for the world's nations to be divided into First, Second and Third Worlds (Escobar, 1994: 23–4). In 1978, one hundred years after Morgan's *Ancient Society* was published, the World Bank launched yet another ranking of the world's populations according to what it considered to be the most important yardstick of development in the 20th century – GNP per capita. In its first World Development Report, the World Bank gradated nation states into categories of Industrialized Countries (First World), Centrally Planned Economies (Second World) and Middle and Low Income Economies (Third World). As predicted by Thompson's, Omran's and Rostow's models, the report statistically illustrated how the higher a country's GNP per capita, the higher its average life expectancy and the lower its average annual population growth would be. Although the World Bank focused exclusively on economic indicators when measuring progress, it nevertheless viewed underdevelopment as nothing short of a bare minimum of subsistence, 'a condition of life so characterized by malnutrition, illiteracy, disease, squalid surroundings, high infant mortality, and low life expectancy as to be beneath any reasonable definition of human decency' (World Bank, 1978: iii).

To raise a country's stage of development, the World Bank argued, one would have to foster economic growth – via industrialisation and modernisation – such that the optimisation of the living conditions of its populations could be secured. In this way, civilisational teleologies of maturation could be recast into developmental teleologies of longevity and affluence as progress came to be defined as a matter, not of civilising the savages, but rather of 'raising the living standards of the poor' (World Bank, 1978: iii). While it might seem at first glance that the subjectivities of those 'poor' who were to be 'developed' were completely overlooked in these developmental rationalities, the argument was rather that one must first attend to a nation's 'basic needs' (clean water, primary health, infrastructure, nutrition) in order to set the stage for a kind of 'take off' into industrialisation which would then generate 'expansion of education systems, growing literacy, improvements in nutrition and health conditions, increasing technological sophistication, and structural changes, including a growing industrial base and greater urbanization' (World Bank, 1978: 1).[6]

'Helping people to help themselves'

Yet, ironically enough, the launch of the World Bank's annual reports on the development of nations towards the end of the 1970s came at the apex of mid-20th-century modernisation critiques which, as mentioned earlier, derided the dehumanising and life-enfeebling effects of industrialisation. It is exactly these forms of modernisation critiques that I argue have laid the grounds for yet another recasting of the notion of global human progress in recent years. By the latter half of the 20th century, critics were arguing that in a world less afflicted by acute hunger and sickness than ever before (which of course did not mean that these problems have in any way disappeared altogether), progress required more than 'merely' securing better living conditions and 'basic needs' for the 'poor'. Just as importantly, it also required the formation and improvement of the *human capabilities* of populations and individuals to experience, develop, enjoy, and function within the confines of this 'mere' subsistence. Reflecting this shift in thinking, the UN Development Programme (UNDP) would in 1990 once again propose a new way of measuring the progress of nations, arguing that the World Bank's approach had not sufficiently captured the 'human' component of progress:

> human development is measured in this Report not by the yardstick of income alone but by a more comprehensive index – called the human development index – reflecting life expectancy, literacy and command over the resources to enjoy a decent standard of living… Human development concerns more than the formation of human capabilities, such as improved health or knowledge. It also concerns the use of these capabilities, be it for work, leisure or political and cultural activities. And if the scales of human development fail to balance the formation and use of human capabilities, much human potential will be frustrated. (UNDP, 1990: 1)

Rather than classify the world's nations into categories of First, Second and Third World, the UNDP introduced categories of High Human Development, Medium Human Development and Low Human Development to gradate the world's nations. In the resulting re-ranking, the United States of America, for example, dropped from 4th most-developed in the world according to GNP per capita in 1990 to 19th most-developed according to the new human development index, while, in the other direction, Chile jumped from 53rd most-developed to 24th most-developed, overtaking the likes of Portugal and Malaysia in the process (UNDP, 1990; World Bank, 1990). Although the improvement of living conditions and life expectancy with the help of economic

growth clearly remained key objectives in this new model of progress, underdevelopment was seen not so much *only* as a problem of squalid living conditions but rather as one *also* firmly rooted in the subjectivity of the 'poor'.

To explain persisting states of 'low human development', 'underdeveloped' populations in the late 20th century came to be described as demotivated, dependent, unaware, unskilled or as lacking a sense of self-esteem and responsibility for their own lives (Wahlberg, 2003). Not that (sub-)populations of 'low human development' (which, it must be stressed, were said to be found in all countries of the world, including those of the industrialised West) were necessarily blamed for their unawareness and dependency – indeed many development organisations blamed their own past, 'top-down' development programmes for having exacerbated the demotivation and dependency of the 'poor'[7] – but their path to progress was nevertheless seen as directly linked to the active optimisation of their human capabilities, a task that an expanding range of participatory and empowering techniques of development, job seeking, capacity building, community participation and cultural resurrection have been addressing since (see Cruikshank, 1999; Dean, 1999; Rose, 1996a; Triantafillou and Risbjerg Nielsen, 2001; Wahlberg, 2003). As a result, alongside developmental teleologies of longevity and affluence, teleologies of human capability emerged in which progress was defined as a matter not only of raising the living standards of the 'poor' but also of 'helping people to help themselves'. Indeed the latter has increasingly come to be seen as requisite to the former in rationalities and practices of human development.

Ten years after UNDP had suggested a reconfigured way of measuring human progress, the World Health Organization (WHO) would follow suit, this time arguing that hitherto average life expectancy at birth figures did not necessarily tell the entire story when it came to the state of a nation's health. In their 2000 World Health Report, the WHO launched a new global health indicator dubbed the DALE, or Disability-Adjusted Life Expectancy (subsequently renamed HALE for Health-Adjusted Life Expectancy), to adjust for 'time spent in poor health':

> In the old system, we measured a total life expectancy based on the average numbers of years males and females could expect to live in each country. However, people don't live all those years in perfect health. At some point in your life, you will have some level of disability. These years with disability are weighted according to their level of severity to estimate the total equivalent lost years of *good health*. You subtract this from total life expectancy, and what remains is the expected number of years of healthy life. (WHO, 2000; my emphasis)

It goes without saying that a country's HALE is always lower than its total average life expectancy, implying that there is more to life than 'mere' longevity. Extrapolating from global HALE and life expectancy statistics, the authors of the WHO World Health Reports suggest that 'people living in poor countries not only face lower life expectancies than those in richer countries but also live a higher proportion of their lives in poor health' (Mathers et al., 2004). The calculation of a country's HALE should be understood as a problematisation of disease not only in terms of mortality but just as importantly also in terms of morbidity's effect on a person's quality of life. The argument being that as populations subsist longer and longer, people are more prone to morbidity than mortality in a growing proportion of their lives, and as a result may be prevented from working or participating in family and social life as well as sometimes left dependent on the care of others, all of which are seen as detrimental for a nation's possibilities for progress. And so today, 'substantial resources are devoted to reducing the incidence of conditions that cause ill-health but not death and to reducing their impact on people's lives' (Mathers et al., 2004), which is to say improving their quality of life.

What is striking about these two latest global taxonomies for measuring human progress from UNDP and WHO[8] is the novel way in which they once again attempt to factor in subjectivity at the level of national populations (the formation and use of *human capabilities* with the HDI and the *experience* of poor health with the HALE). This is a fundamentally different form of anthropo-politics than was characteristic of 19th-century evolutionary debates which characterised multiple subjectivities in terms of various stages of 'maturity' and civilisation grounded in a biological substrate. Measuring collective human capability and quality of life today has nothing to do with measuring the mean size of crania of a particular race or peoples, instead it involves aggregating demographic literacy, morbidity and school enrolment statistics.

In both of these new forms of taxonomy, a recasting of the notion of human progress becomes evident: to live is certainly as a minimum to have the means with which to biologically subsist, but it is at the same time more than that. It is also to experience and enjoy that life, to cope with its vicissitudes (be they seen as bacterial, genetic, viral, toxic, neurochemical, psychosomatic, socio-economic, or psychological in origin), to unfold the human capability potentials that it makes possible and indeed to be able to function in ways requisite to *both* a lengthy subsistence and a 'rich' existence. Biology becomes, in a sense, the 'cold flesh' that is to be (re)vitalised with 'quality' as body and subjectivity remain inseparable, albeit in a novel assemblage, in the calculation and measurement of the life of nations.

Conclusion

If the emergence of bio-power can be linked to a kind of governmentalisation of life whereby life and its mechanisms have been brought into a realm of explicit calculation in order to optimise and administer it, then we will do well to pay attention to the many different ways in which life and its mechanisms have come to be conceptualised, mapped out and intervened upon. What I have argued in this paper is that a focus on the body and the biological in the bulk of contemporary work on questions of bio-power, bio-capital and bio-economics has come at the cost of other accounts of what life might be and consequently how it might be improved and optimised. Bodies are not the only object of bio-power today, so too are subjectivities or what Foucault termed the 'modern soul'.

To be sure, bio-power as a site where novel subjectivities are formed and transformed is a thematic that cannot be said to have been neglected in recent years. We have, for example, learned how the emergence of a form of biological citizenship has allowed for individuals to 'shape their relations with themselves in terms of a knowledge of their somatic individuality' (Rose and Novas, 2005), how the classification of certain human kinds – e.g. the 'autistic' who suffer 'from some distinct biological (biochemical or neurochemical) impairment' – has looping effects that can change self-conception and behaviour (Hacking, 1995: 376), how in emerging forms of 'biosociality' sufferers of certain genetic diseases or conditions are bringing together 'medical specialists, laboratories, narratives, traditions, and a heavy panoply of pastoral keepers to help them experience, share, intervene, and "understand" their fate' as well as to 'demand a say in shaping the technologies and forms of knowledge associated with the new genetics' (Rabinow, 1996: 102; Novas, 2006: 290), and also how some alcoholics have come to view and act upon themselves as 'endorphin challenged' in line with cutting-edge neuroscientific research into dependency (Vrecko, 2006).

The point I have been making, however, is that it would be helpful for us to approach individual and collective subjectivities as *objects* of bio-power (not just as effects) in the same way that we can approach the body and the population as objects of bio-power; both of which are mapped out, investigated and subject to various forms of normalising and regularising intervention, and both of which can in turn have subjectifying or looping effects. In much of the contemporary work focusing on the subjectifying effects of the bio-sciences, emphasis has been on how the frontier technologies of genetics, neuroscience or stem cell therapy can generate novel forms of relating to and acting upon oneself. These frontier technologies rely on the harvesting, banking, circulation, cultivation, regulation and/or therapeutic use of certain bio-materials (stem cells, DNA, neurochemicals) extracted from the body and are made possible by

various laboratory techniques of, for example, receptor binding assays, embryonic stem cell derivation, DNA sequencing or therapeutic cloning. At the population level, genetic epidemiologists measure allele frequency in order to localise susceptibility loci for certain diseases and the field of pharmacogenomics has emerged to identify genetic markers with which to predict a person's response to a particular drug under a motto of 'one size does not fit all'. And, as has been empirically demonstrated by the above-mentioned scholars, all of these developments have clearly had subjectifying effects as they spill-over or 'loop' into an ethical field of self-understanding and practices of the self.

Yet, if, as I have argued, the politics of life is not a domain restricted to the bio-sciences, then we must also take into account those technologies and techniques that have been developed in the human and social sciences to map out and describe what life is and how it might be improved. These technologies and techniques have included participant observation, opinion surveys, focus groups, longitudinal social indicator research (e.g. literacy rates, enrolment rates or national attitudes) and interviewing. And what they have in common is their attempts to circumscribe and make amenable to intervention a certain 'subjective' component of *life* in which life is something that is lived, experienced, coped with, taken advantage of and improved in terms of 'quality', 'hope', 'ontological security', 'capability' or 'happiness'. These components of life can in turn be influenced through 'therapeutic' techniques of capacity building, empowerment, participation, awareness-raising or coping. In short, in the same way that the life sciences have been shown to have looping effects when they classify individuals and populations in a biological discursive frame, so too do the human and social sciences when they gradate and taxonomise populations and individuals in a psychological, sociological or anthropological discursive frame.

Each of the classificatory systems of human progress that I have touched upon in this paper – civilisational, developmental and more recently capability-based taxonomies – has suggested a particular teleology of progress and each has constituted an attempt at mapping out contemporary reality in order to grasp and then intervene upon it. And what is clear from each of these systems of classification is that progress has not solely been defined in terms of the collective longevity and wealth of populations, but also in terms of these populations' collective states of 'civilisation', 'basic needs', 'human capabilities' or 'quality of life', all of which pertain to a 'subjective' domain of life.

And so, just as it has been argued that novel forms of engineering anatomical/biological life through regenerative medicine or neuropharmacology are leading to new regimes of bio-capital and bio-economics, we can also say that novel forms of engineering psychological/anthropological life are contributing to the formation of new regimes of human

capital and human development. It is in this way that I suggest the concept of bio-power should be broadened to take into account both body and subjectivity as objects of life-optimising interventions to secure the 'health, wealth and happiness' of populations and individuals. As Rabinow and Rose have argued, bio-power remains a robust concept when accounting for contemporary efforts to map out and propagate life optimisation as it

> serves to bring into view a field comprised of more or less rationalized attempts to intervene upon the vital characteristics of human existence – human beings, individually and collectively, as living creatures who are born, mature, inhabit a body that can be trained and augmented, and then sicken and die and as collectivities or populations composed of such living beings. (2003: 2–3)

To this field of intervention, however, we should also add a subjectivity that in the same way can be trained and augmented, as these human beings and the populations they comprise collectively not only subsist, sicken and die but also exist, learn, experience, become ill and cope with their afflictions before they die.

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Notes

1 For example, a recent UN report noted that life expectancy fell in 34 countries in the last decade of the 20th century due to HIV/AIDS, genocide, natural disasters and scandalously insufficient health programmes (UNDP, 2003: 2).

2 As already pointed out, I am acutely aware that scandalous health inequalities both within nations and globally are neatly overlooked in discussions about progress at the level of populations. There are also important questions to be asked concerning what many commentators describe as a 'lack of political will' to tackle global health problems, the argument being that if existing resources were prioritised to address the problems of malaria, HIV/AIDS,

tuberculosis, etc. instead of on, for example, military expenditure, then a lot more lives could be saved, lengthened and improved. For the purposes of this paper, however, I will be discussing health and progress as they relate to aggregated populations on a global scale.

3 This is an important point as one can of course not claim that the problem of the self is somehow unique to modernity, any more than one can suggest that taking care of the self by attending to some kind of interiority (soul, spirit, mind) is. Very practical and concrete examples of self care advice can be found in thousand-year old records (Foucault, 1985). What I am arguing is that the ways in which these interiorities came to be known, mapped out, worked upon, and harnessed in overall efforts to secure human progress are novel.

4 I realise that as a discipline anthropology spans a wide range of fields of expertise, from physical anthropology to archaeology. For the purposes of this paper, I am using the prefix anthropo- to indicate that it is a politics that has emerged out of the study of Mankind as a collective, or rather, as I will show, as a number of collectives grouped according to 'race', 'civilisation', 'nation' or 'culture', rather than as individuals.

5 Some argued 'as regards the question of perfectibility of the savage races, it must not be forgotten that nature takes no leaps' (Schoafhauser, 1869: 369) while others pointed to 'proofs that savages are independently able to raise themselves a few steps in the scale of civilisation, and have actually thus risen' (Darwin, 1871: 221).

6 This is not the place to expand on this but it is certainly worth pointing out that this so-called 'trickle-down' model of development espoused by the World Bank, where policy-led structural adjustments and a focus on 'basic needs' were seen as catalysts for an economic growth which would eventually permeate to a nation's entire population, was highly contested. Proponents of structuralist models of development argued instead that modernisation and industrialisation were to be secured through interventionist state policies of protectionism as well as through a redistribution of global wealth through international aid (see Wahlberg, 2001).

7 For example, the World Bank (1989: 3) has argued that 'post-independence development efforts failed because the strategy was misconceived. Governments made a dash for 'modernization', copying, but not adapting, Western models… This top-down approach

demotivated ordinary people, whose energies most needed to be mobilized in the development effort.'

8 It is interesting to note that the development of global indicators for measuring quality of life continues. See, for example, Veenhoven for a 'Happy Life Expectancy' index which combines 'estimates of length-of-life, with survey data on subjective appreciation-of-life… and can be interpreted as the number of years the average citizen in a country lives happily at a certain time' (Veenhoven, 1996: 1), the Happy Planet Index which is described as the 'first ever index to combine environmental impact with well-being to measure the environmental efficiency with which country by country, people live long and happy lives' (www.happyplanetindex.org, consulted 31 October 2006) and the Economist Intelligence Unit's "'quality of life" index based on a unique methodology that links the results of subjective life-satisfaction surveys to the objective determinants of quality of life across countries' (www.economist.com, consulted 31 October 2006).

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Ayo Wahlberg holds a PhD in Sociology from the London School of Economics and Political Science and an MSc in Social Science and International Development Studies from Roskilde University, Denmark. He is currently a Research Fellow at the BIOS centre for the study of bioscience, biomedicine, biotechnology and society, London School of Economics and Political Science, United Kingdom. His doctoral research was focused on contemporary controversies surrounding quackery, efficacy and life in the indigenous traditional herbal medicine of Vietnam and the United Kingdom. He is about to begin work on a socio-historical investigation into the emergence of 'quality of life' as a therapeutic object. Academic publications include: 'Bio-politics and the promotion of traditional herbal medicine in Vietnam', *Health: An Interdisciplinary Journal for*

the Social Study of Health, Illness and Medicine 2006, 10(2): 123–47, and 'The teleology of participation', *Anthropology in Action* 2003, 10(1): 5–14.

Ayo Wahlberg
BIOS Centre
London School of Economics
Houghton Street
London WC2A 2AE
UK
Email: a.j.wahlberg@lse.ac.uk