

The Demographic Transition: Population and Underpopulation

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As the world welcomed passenger number six billion – symbolically chosen by Kofi Annan to be a baby Bosnian from Sarevejo – the debate on overpopulation has continued to heat up. As of early October 2006, it was estimated to be 6.6 billion¹ with eight billion estimated for 2028.² Concern over the carrying capacity of the Earth, resource use of the rich, and fear³ of billions of "others" at immigration gates consistently make population a high ranking world problem.⁴

Indeed, population in itself has become a defining category – how many there are of us; how these categories are broken down (age; sex, for example); who does this counting; what the information is used for; what methods are used for forecasting; and what ways of thinking are marginalized within this dominant discourse. Population can be seen as a neutral technical discourse or as a political discourse wherein population is part of a larger way of constructing the world. Predicting population can thus be then seen as a political act in that privileges certain commitments over others. For example, the assertion that the world is overpopulated exists within various implicit political commitments - eg that individuals are not resources, but problems to be managed, or values and economic theories wherein resources are predominantly physical not spiritual (and thus limitless).⁵

Challenging "population" consists of making problematic the basis of population forecasts by historicizing how we have come to be a "population" and by developing alternative constructions of "population." For example, communities, the global self, peoples, fields of awareness, ecosystem, civilization.

But it is not this deeper and broader discourse that we are accustomed to. Rather, we are given figures on the growing population and more recently the ageing population. This chapter explores the futures of ageing, both within the dominant discourse (the impact of ageing on superannuation, for example, and on alternative discourses (through concluding scenarios) and by challenging the discourse of overpopulation via the counter discourse of underpopulation.

The problem of overpopulation can be seen as complex with multiple solutions.⁶ Delivering contraceptives to the teeming masses is the solution most often raised. Others point to poverty, seeing population as a development problem, not as a trait of "impulsive races." Still others go deeper, examining women's power, their control over the future, their bodies. It is concern for the future, that is, one's social security, of who will take care of oneself in one's older years, that is seen as a decisive variable. While most states in India have high birth rates, Kerala does not, largely because feudalism has been overthrown and women have been empowered – through education a stable view of the future, created.⁷ Thus, empowering women, focusing on education and creating a stable future in old age that is crucial if we wish to succeed in family planning. Finally, argue many it is one's personal foot print that is crucial. One can have large populations but with low foot prints. And one can have small populations but stunningly high foot prints, as the case with Australia. It is population plus impact on the Earth. Greener technologies are called for in this discourse. Thus, based on one's worldview (feminist, ecological, technocrat, futurist) differing policy solutions are offered.

DEPOPULATION

However, it may be that we are looking entire, at least in the long term, at the wrong issue. There is evidence that instead of overpopulation it will be underpopulation that may become the world's biggest world problem, first in the West, and then most likely throughout the world. Because of an ageing

population (people living longer, delaying when they have children, reducing the number of children they have, and reduced infant mortality) the world in the mid-range future – 50 years – and certainly the longer term future – 100 years plus – will likely look quite dramatically different.

Some even argue that only nations that have high immigration in-takes and can make the switch from a youth economy to an old person's economy will survive. While migration will not solve all the problems, certainly finding ways increase population will become the politics of this century. Already OECD nations are giving baby bonuses to couples so as to increase numbers.⁸ From a strategic view, this will mean among the biggest changes in human history – pensions, growth economies, 9-5 work schedules, student/work/retirement life pattern and even male domination, patriarchy - all will have to end if we are to successfully navigate the agequake ahead.

Growth via population has been the dominant paradigm for at least the last five centuries. Everything has been predicated on continued growth. But a declining population, as we are already seeing in Japan, likely to go from the current 127 million to 89 million by 2050. Indeed, one national capability report warns: "If nothing is done to curtail this trend, Japan's population could fall as low as 150,000 within 500 years."⁹

Norman Myers, Oxford Fellow, presents a similar argument to Europe. He writes: In fact Europe could soon encounter what demographers call "negative momentum" when a shrinking population goes into an ever-steeper spiral of decline. How much of a decline is underway already? Europe's 47 countries possessed 726 million people in 2003, a total projected to slump to 696 million by 2025, a drop as large as Canada's population. Twelve of the major 27 countries feature falling numbers. If present trends persist, the decline will become still bigger and arrive faster in more distant decades as the region increasingly falls prey to negative momentum. By 2050 Europe's population could shrink to 565 million people.¹⁰

At the world level, writes Nicholas Eberstadt,"

...global depopulation would commence in a little over four decades. Between 2040 and 2050, the world's population would fall by about 85 million. From then on, world population would shrink by roughly 25% with each successive generation. To put the matter another way, future world fertility patterns would be similar to those in the "more developed regions" today, where the "net reproductions rate" is already down to about 0.7 (meaning that the next generation, under present patterns of childbearing and survival, and not accounting for immigration, would be about 30% smaller than the current one).¹¹

Absolute numbers would decline but as important is the ratio of "less developed" to "more developed."

In 1995, the ratio of population between today's "less developed" and "more developed" regions stood at about 4 to 1; in 2050, by these projections, it would be 7 to 1. The balance of population would shift dramatically, not only between countries but even between entire continents. In 1995, for example, the estimated populations of Europe (including Russia) and Africa were almost exactly equal. In 2050, by these projections, Africans would outnumber Europeans by more than 3 to 1.¹²

AN AGEING POPULATION

This of course would lead to the ageing of population. Writes Eberstadt:

These same demographic forces--longer lives and falling fertility--would also lead to a radical and inexorable ageing of the population. Around 1900, the median age of the world's population was probably about 20; by 1995, it reached about 25 years. By 2050, in the "low variant" world, the median age would be over 42. In some countries, the population would be even older: Japan's median age would be 53; Germany's, 55; Italy's, 58.¹³

Of course, this is all based on the particular assumptions of fertility –the low variant UN model. Nonetheless, these are dramatic forces with dramatic consequences on our futures.

Writes Paul Wallace, author of the popular *Agequake*, historically "we have been remarkably young. Our average age has been around 20 or less. But in the current generation's lifetime, the average age of the world will nearly double from 22 in 1975 to 38 in 2050, according to the UN's latest projections issued at the end of 1998. Under another projection, it could reach over 40 as early as 2040. Many countries will reach average ages of 50 or more."¹⁴

Not only is the population pyramid about to flip but populations in Europe are generally poised to plunge on a scale not seen since the Black Death in 1348. "An extraordinary crossover is already starting to occur as older people outnumber younger people for the first time in human history. In the early twenty-first century, this tilt from young to old will take on a new dimension. It will go hand in hand with the onset of population decline in many developed nations as they experience the first sustained demographic reverse in centuries."¹⁵

But this is not just a Western trend, indeed, because of the speed of the demographic slowdown in the developing world, it means that "they will age much more quickly than the West," says Wallace. In twenty years' time, China will be one of the most rapidly ageing societies.¹⁶

THE WORKER TO RETIREE RATIO

While many of these changes will be obviously positive, longer life (by mid-century there will be over two million centenarians compared with 150,000 today)¹⁷, healthier life styles, less childhood deaths, and falling number of young people (which means falling crime rates), others are not so positive. Who will pay for the retirement benefits of the older population? This is especially important after 2010 when the ratio of the working age population to old dependents will decrease. And over the next thirty years the ratio of workers to retirees on pension in industrialised nations will fall from the current 3-1 to 1.5 to 1 (and 1:1 in Germany, Italy and Japan).¹⁸ How will societies stay rejuvenated with new ideas? Would we have had a personal computer revolution if youngsters like Steve Jobs were not there to challenge authority and create new products? And what of the Internet.com revolution and the associated changes in corporate culture and organizational culture? Of course, the definition of ageing will change, and older people may become much healthier than they are now, but this does not solve the problem of dependence on the young for economic growth.

More strategically, what will happen when those purchasing stocks in the 1980s and 1990s begin to sell them 20 years later to pay for their retirement? There may be no age-cohort to purchase them as the baby boomers have currently. Will we enter a long term bear market and thus possibly a long term economic depression? Will the demand problem be worsened by the continued delinking of the finance economy from the real world economy of goods and services, of cyberspace from manufacturing and investment space? Or will a transformation to a green sustainable economy (using green technologies, reducing carbon emissions) change the game? Or will disintermediation (the elimination of the middle man because of near perfect information conditions created by smart and transparent AI systems)?

Whichever direction we turn, the future certainly will be disruptive. Business-as-usual is becoming business-was-usual.

CAUSES OF AGEING

But what is the cause of the ageing of society? Two factors. First, we are living longer and second, birth rates are falling. "In the late 1990's fertility rates are already at or below replacement level – 2.1 children per woman – in 61 countries with almost half the world's population," writes Wallace.¹⁹ And so on, even nations like India and Indonesia are likely to fall below this level.

Along with ageing, there will be a genderquake. In the West, children are being postponed as women focus on their careers, this brings down fertility as there is a strong link between a woman's age at first birth and the average size of her family. Also many more women are not having children at all. In contrast, leaders in the developed world are urging women to produce more children, Japan is even trying to convince the salaryman to spend more time at home, play with the children, make his wife's life easier, so she will have more children. While this does not mean patriarchy in Japan is under any threat – structural changes are unlikely – it does mean women's value will be enhanced.

ICEBERG AHEAD

The population pyramid is reversing, argue sociologists. Populations are declining, especially in rich nations. Populations are like supertankers, it takes forever to turn them around, but when they do, the changes are dramatic, argue many. Until recently, Europeans had not noticed the population decline because of immigration, high fertility in the past and declines in mortality, but in reality birth rates are plunging in reverse. Pete Peterson in his book, *Gray Dawn*, describes global ageing as an iceberg. While it is easy to see above the waterline, it is far more difficult to prepare for the wrenching costs ... that promise to bankrupt even the greatest powers ... making today's crisis look like child's play."²⁰

There are multiple solutions to an ageing population: immigration, higher productivity through new artificial intelligence technologies, and as mentioned earlier, financial incentives for having babies.

One solution for the West is immigration. Already California is set to become a majority minority state. The USA will become the second largest spanish speaking nation in 2020. But there are danger signs as generally older Californians will be caucasian and rich, while younger one's will be hispanic and poorer. The question is not will California secede but which California will secede? Writes Pederson:

Perhaps the most predictable consequence of the gap in fertility and population growth rates between developed and developing countries will be the rising demand for immigrant workers in older and wealthier societies facing labor shortages. Immigrants are typically young and tend to bring with them the family practices of their native culture - including higher fertility rates. In many European countries, non-European foreigners already make up roughly 10 percent of the population. This includes 10 million to 13 million Muslims, nearly all of whom are working-age or younger. In Germany, foreigners will make up 30 percent of the total population by 2030, and over half the population of major cities like Munich and Frankfurt. Global ageing and attendant labor shortages will therefore ensure that immigration remains a major issue in developed countries for decades to come. Culture wars could erupt over the balkanization of language and religion ... electorates could divide along ethnic lines.²¹

HIGHER PRODUCTIVITY

A second solution is increasing productivity, working smarter. Already productivity has dramatically increased via the internet revolution. The problem of fewer young people working will not be a problem since they will be able to produce more wealth. And the Internet revolution is just the beginning, the real explosion may come from the convergence of genetics research, brain science and computing/telecommunications. Productivity could be enhanced through first, genetic prevention, second, genetic enhancement (of "intelligence" "typing speed" "language ability") and finally, genetic recreation. It is the latter that is the bet for the right wing in developed nations as this guarantees the survival of a shrinking "white" population keeps their place as dominant caste. Genetics with nano-technology could go a step further, ending scarcity, and at the same time, ending economic advantage and one of the primary reasons immigrants leave their home nations in any case. With the caucasian population declining from 50% of the world's population in 1850 or so to 3-7% of the population by 2150, certainly unless we change the nature of our planet (moving beyond color, ethnicity, race), conflict looms ahead.²²

The agequake is predictable since projecting the future age structure of a population can be done with a great deal of certainty (barring asteroids, pandemics, etc). Demographics also can predict changes in

behavior since one is more likely to migrate in one's 20s, one is more likely to vote conservative in one's 50s (when one has property to conserve, and when one is concerned more with crime and order and less with freedom and social justice).

Wallace also points out that membership in one's generation is significant in determining one's life chances, but not in the ways one thinks. For example, in the Western context, if you are born in a baby boom year there will be more competition throughout your life, while if you are born in a baby-bust year there will be less competition for work, marriage partners and houses.

SURVIVING THE AGEQUAKE

How can one personally survive the agequake? First, it is crucial to think in the long term, of future generations. Second, it is important to position oneself in areas that are based on ageing or are not ageing sensitive.. Equally crucial is to think in terms of products which baby boomers will be eager to purchase so as to remember their youth – the nostalgia factor .Third, the future is likely to be multicultural, rainbow societies with diverse identities, though this is far from certain – reversals to gated communities, back to the past movements are challenging the rainbow story. Nonetheless, already the buying power of latinos in the US is larger than Mexico's economy.²³ While it is easy to predict the rise of stocks focused on Ageing, more important is developing one's own capacity to adapt to changing conditions. In any case, retirement homes for retiring baby boomers in developing countries will probably also do well as they will want to move to places where their strong currencies buy more, and where the idea of community still flourishes. It is unlikely that virtual communities will provide the feeling of belonging that elders will need.

Wallace and Pederson as well reflect on which countries will be the winners and which the losers? Because of immigration the US will retain its power as will England. Because of its relatively young population, Ireland will also do well. However, Germany and Japan will be losers because of "falling working-age populations." Indeed, the crisis that Japan is emerging in is partly a crisis of ageing, it no longer has a favorable demographic structure for economic growth.²⁴

All this – coupled with advances in genetics, life extension – may lead to a new age. However, not all see ageing futures as so rosy. Once they make it to old age, currently few people escape long-term health problems. Beth J. Soldo and Emily M. Agree of the American Population Reference Bureau argue that in developed nations such as Canada and the US, as the elderly population grows due to life expectancy gains and the ageing of the huge baby-boom generation, there will be many more sick and disabled old people.²⁵ The average person is sick or disabled for nearly 80 percent of the extra years of life he or she gains as life expectancy rises. Health expenditure for Australians over 65 is already four times higher than for the rest of the population. The World Health Organization estimates that by 2020 depression will be the leading cause of "disability adjusted life years" dramatically increasing the demands for psychiatric health services for young and old.²⁶ The aged, particularly those removed from family and community, will be especially prone to mental illnesses. In Queensland, Australia the proportion of those over 60 years will increase from 15% in 1995 to 23% in 2031. Already 25% of those over 65 demonstrate functional psychiatric disorders.²⁷ Writes T. Matthews, "Once upon a time our biggest fear was dying too young. Now it is living too long." ²⁸ And concludes the Economist, "the class divide matters more in old age than at any other time."²⁹ For ageing to be a bright future not only will society's economic and social structure have to change but medical developments in life extension will have to materialise, otherwise we will live in a future where the elderly will be sick and marginalized, used on television ads to raise money for charities, just as Third World children are today.

At a macroeconomic level, immigration will solve some of the West's problems but in-take will have to increase by ten times the current amount and be sustained for the West to survive the the burden of taking care of an older population. In the long run, India, Brazil and other slow-ageing societies will do the best. Worse off will be Russia – and others parts of the former USSR - which is in the midst of a demographic crisis as Russian men are dying in middle age. Russia does not have generations of prosperity to soften the shock of the agequake. However, argues Wallace, Russia could take advantage of the new modern information technologies especially as the current generation is being born without the

mental blocks of the Soviet era. But for this to happen, mafia-economics will have to end, and a predictable future for investment and shared distribution created.

As the developing world becomes more important, international organizations will, to survive, have to include memberships from these nations. There will thus be a new world order, in which an "ageing, sluggish West is ringed by more youthful and economically buoyant countries," says Wallace.³⁰ The UN security council, international finance agencies, security alliances are all likely to see their memberships change. Alternatively Western nations and institutions could decide to go it on their own creating a Fortress/Castle West with "high gates and big dogs."

Asians will have to change as well, becoming more multicultural. As the age pyramid bulges at the top, filial piety will be one of the first values to go. Young people will want their due since they will be scarce, and there will be too many of the elderly to take care of. The elderly will probably use religion or the state – gerontocracies – to maintain power, while the young will search for new symbols (the Net) and new social movements (alternative modernities, neither West nor East) to lay their claim on the future.

OLD VERSUS YOUNG

Generational wars is the likely future especially in those nations where pension schemes have not been reformed. In the West, writes Wallace, "The old will use their voting power to insist that younger workers fork out to pay for their pensions. But the young will resist with their economic power by pushing up real wages for services that the old have to pay and evading contributions wherever possible, so that the gap between the legitimate and the black economy grows even wider."³¹ Medicare will continue to be severely challenged. Non-essential medical services will be shifted away from the State. In the long run, there might be a return to childrearing as patriotic duty, of course.

Reforms will be needed. Reforms will have to tackle the fundamental mismatch between people's desired mix of work and leisure and what is actually on offer in the workplace. The present system crams work into people's middle years, making children even more of a burden – so helping to create the agequake - while creating a surfeit of leisure in later years. Women are heavily penalized if they want to work part-time to enable them to look after their children, while older workers are not usually offered a reduction of working hours in their fifties and sixties. For their part, older workers are not generally prepared to accept lower earnings, even if this reflects the reality of their declining productivity.³² We are accustomed to the elderly increasing in stature, in wisdom, since historically so few have survived, but with this about to turn over, wealth and wisdom is unlikely to correlate with ageing.

While some policymakers are beginning to consider the future needs of the aged – housing, transport (the aged like youth tend to have more accidents), healthcare – recognizing that most likely these systems will be severely taxed, few have begun to understand that the entire current economic and cultural system has been based on young people working, on a normal population pyramid, on a growth-oriented economic system. We have never seen a society where the pyramid is flipped. Will immigration save the day, or will technology, the Net, Genetics or Nano (making labour far less important)?

To survive the agequake, our basic structures of work/leisure/family structures will have to change. The old pattern of student, work, retirement, death will have to transform, more flexible patterns will have to be set up to combine work and play, and the rearing of children, that is with taking care of society's demographic future. While this will be one aspect of the needed change, in fact, the entire (endless growth) capitalist system will have to transform, nothing less will be able to adequately resolve the tensions ahead.

We have historically lived in a world where the average population was young. This is about to reverse itself. The entire industrial and postindustrial system has been built on certain demographic assumptions of when we work, when we reproduce, when we retire; this is all changing, and we are not prepared.

ALTERNATIVE FUTURES

What then are the scenarios? ³³ Four alternative futures are offered below. They are based on the following variables: Type of governmental and social response (from weak to strong) and type of change (deep and shallow). Based on these variables the following scenarios emerge: unprepared and in conflict (weak response); Ageing Navigated (strong response); Lifecycle transformed (deep response) and Governmentalized (shallow response).

Unprepared and in Conflict

As with global warming, scientific papers are ignored or there is deep resistance from major powers. Ageing catches the developed and the developing nation totally unprepared. Creativity and innovation decline. Costs of taking care of the aged spiral. A strong two class society emerges – the rich healthy aged and the majority poorer and sick age – along with the young, who are considered unimportant.

Ageing Navigated

The ageing crisis is navigated by multipronged policy approaches based on a multiplicity of complex worldviews. 1. Laws to protect and support the aged. 2. Social support for the aged. 3. Emphasis on active ageing, grey power. 4. Extending the retirement age. 5. Increasing incentives to save for the later years, via tax reductions. 5. Increasing incentives to have children via baby bonuses, and 6. Gender equality. The young are seen as an important resource of new ideas and revitalization.

Lifecycle transformed

Ageing is far less of an impediment as the life cycle is transformed – the birth-student-work-retirement pattern is transformed. Student expands into life-long learning. Work is transformed in multiple directions: 1. multiple careers 2. the portfolio career, multiple jobs simultaneously 3. the informal economy becomes respected and 4. work as mission and meaning as roboticization and digitalization eliminate bureaucracy and standardized systems. Retirement is transformed as well – one can retire and then reenter the work force. Alternatively, retirement transforms to mission as opposed to the couch-tv scenario. Thus the foundational assumptions of the lifecycle are transformed changing the very nature of society.

Governmentalized

Ageing is met head on but it becomes governmentalized. It becomes the problem that is to be solved. Ageing is heavily funded – there is a Ministry of Ageing. Ageing becomes a defining discourse, used to explain reality. All new governmental policies must be evaluated via an ageing impact statement.

IN THE LONG RUN

Which scenario will result is dependent on how humans engage with both the demographic pushes and the new technologies. But even more important is the challenge of developing new images of the future, particularly those that acknowledge the foundational changes aging and depopulation will have on our societies.

In the long run, even if we are all dead, we can hope for a wiser society, though ageing may make us far more resistant to change. Sustainability is likely to emerge as the world paradigm once the mantra of growth finds itself without feet to stand on. But will the sustainability discourse have a vitality to it – a new vision of progress and hope? ³⁴

Notes

- ¹ <http://www.census.gov/main/www/popclock.html>. Accessed October 2, 2006
- ² www.prb.org/wpds/. Accessed October 2, 2006
- ³ For the manufacture of fear and population, see, The Corner House, "Dangerous Demographies: The Scientific Manufacture of Fear," The Corner House. Dorset, UK. www.thecornerhouse.org.uk
- ⁴ See, for example, www.overpopulation.com
- ⁵ For an alternative reading, see the works of P.R. Sarkar. See Sohail Inayatullah, *Understanding Sarkar: The Indian Episteme, Macrohistory and Transformative Knowledge*. Leiden, Brill, 2002.
- ⁶ For more on this, see Sohail Inayatullah, ed., *The Causal Layered Analysis (CLA) Reader: Theory and Case Studies of an Integrative and Transformative Methodology*. Taipei, Tamkang University Press, December 2004.
- ⁷ http://www.globaleye.org.uk/secondary_summer2002/focuson/case1.html. Accessed 2 October 2006.
- ⁸ For example, see Jacinta Tynan, "Why we're having a bumper baby bonus," <http://www.news.com.au/dailytelegraph/story/0,,20497584-5006002,00.html>. Says, the byline, "WE'RE having babies again - 265,031 babies last year, the most since 1971 and just shy of record heights in 1960. Peter Costello is taking all the credit." However, critics, ask: "why not fully subsidized child care?"
- ⁹ Japan's Population Decline and Comprehensive National Capability (interim report). www.nira.go.jp/newse/events/01-1.html. Accessed 29 September 2006
- ¹⁰ <http://www.popco.org/press/articles/2004-1-myers.html>. Accessed 1 October 2006.
- ¹¹ <http://www.junkscience.com/news/eberstad.html>
- ¹² *ibid.*
- ¹³ *Ibid.*
- ¹⁴ Paul Wallace, *Agequake, Riding the Demographic Rollercoaster Shaking Business, Finance and Our World*. London, Nicholas Brealey, 1999. From the preface.
- ¹⁵ *Ibid.*, 3.
- ¹⁶ *Ibid.*, 4.
- ¹⁷ *Ibid.*, 20.
- ¹⁸ See The Corner House. "Too Many Grannies? Private Pensions, Corporate Welfare and Growing Insecurity," The Corner House. Dorset, UK, www.thecornerhouse.org.uk. Also, see, <http://www.cato.org/testimony/ct-jp092497.html>. Accessed October 2, 2006.
- ¹⁹ *Ibid.*, 5.
- ²⁰ Peter Peterson, *Gray Dawn*. New York, Random House, 1999. Also see: <http://webhome.idirect.com/~carcare/thoughts/ageing.htm>. Peterson writes: A little understood global hazard - the greying of the developed world's population - may actually do more to reshape our collective future than deadly superviruses, extreme climate change or the proliferation of nuclear, biological and chemical weapons.
- ²¹ Peter Peterson, "Gray Dawn: The Global Ageing Crisis," *Foreign Affairs*, January/February 1999, 42-55.
- ²² <http://www.lifeissues.org/international/v9n5.html>. United Nations figure - in the medium project scenario have Africa at 2.8 billion, Asia at 5.1 billion, Latin America at 916 million, North America at 414 million and Europe at 590 million. World population would be around 11 billion. 90-95% would be "non-white" in these figures. However, this is crucial, population trends are not destiny, the UN offers a range of projections and scenarios, and categories of "white", "nonwhite" are socially constructed. http://iggi.unesco.or.kr/web/iggi_docs/05/952655858.pdf. Also see: http://www.prb.org/Content/NavigationMenu/PRB/Educators/Human_Population/Population_Growth/Population_Growth.htm. Sally Neal, *Social Trends: Implications and Opportunities*. Queensland Government, Department of Primary Industries. www.dpi.qld.gov.au/business/Welcome.html.
- ²³ Wallace, *Agequake*, 10. Also see, *The Economist*, America's Latinos. 25 April 1998.
- ²⁴ *Ibid.*, 172-180.
- ²⁵ Beth J. Soldo and Emily M. Agree quoted from the USA Population Reference Bureau's bulletin, *American's Elderly* in Cheryl Russell, *American Demographics*, March 1989 v11 n3 p2(1).
- ²⁶ See, The Global Movement for Active Ageing. http://www.who.org/ageing/global_movement/index.html
- ²⁷ See Ivana Milojevic, Ivana Milojevic, *Home and Community Care Services: Generic or Discriminatory*. HACC Action Research Project, report to Catholic Social Response, 1999, p. 35.
- ²⁸ T. Matthews, "Fewer pension pots, more efficiency," *Financial Times*, 23 November 2005, 19 quoted in The Corner House, "Too Many Grannies?" 11.

²⁹ "A long, long life," *The Economist: A Survey of Retirement*, 27 march 2004, 5 quoted in *The Corner House*, "Too Many Grannies?" 11.

³⁰ *Ibid.*, 204

³¹ *Ibid.*, 211.

³² *Ibid.*, 218.

³³ For a review of some ageing scenarios, see: Edward Schneider, "Ageing in the Third Millennium," *Science*, (Feb 5, 1999 v283, 5403), 796.

³⁴ The work of P.R. Sarkar is focused on creating a new theory of economic and social development. See www.prout.org