**"The aim of this play is to make high drama out of convent life and dementia research," p 960**



# We must curb population growth for global health

PERSONAL VIEW **Robin Stott**

Population stabilisation is essential to healthy societies, and is fortunately an inevitable outcome of the evolution of such societies. My line of argument is to understand what underlies healthy societies, and to provide evidence that non-coercive population stabilisation is a key and attainable attribute of such societies.

Over the past 150 years health professionals have, with increasing clarity, defined the characteristics of a healthy society. Michael Marmot's recent report to WHO[1] articulated the determinants of health and set out how the circumstances in which we are born, grow, live, work, and age are best arranged to ensure that people are likely to be healthy. In essence, the social, economic, and environmental determinants of health need to be so arranged that basic human needs are met, the available resources are shared more rather than less equally, and resources are delivered without overusing the limited environmental goods available to us. A "fair shares" society is a convenient shorthand way of describing such health promoting arrangements.[2]

There are no universally agreed indicators to mark countries that have attained this happy state. The UN based human development index (HDI), which is a comparative index of life expectancy, literacy, education, and standards of living, is as good as we can currently get. Although it did not take inequalities between the sexes into account until recently, and has no marker of per capita resource consumption, it does indicate that where female education is combined with appropriate resources to allow access for all to family planning, fertility rates fall, often to below replacement values (that is, the level of fertility at which a population exactly replaces itself from one generation to the next). It thus reflects the extensive evidence showing that female education and access to resources are the key to achieving a stable, and indeed often reducing, population. Reduced maternal morbidity (through reduction in infections, unsafe abortions, and obstructed labour) and a reduction in infant mortality are associated benefits, and provide the supportive framework within which smaller families become the norm.

The relation between HDI and fertility rate is nearly linear; an improving HDI, and so

FRANS LEMMENS/ALAMY

**Population stabilisation is also helpful in tackling climate change, as more people will consume more resources**

health status, is unequivocally related to a decline in fertility, often to below replacement levels.[3] Because of childhood mortality, and the increasing number of women who do not wish to have children, the replacement fertility rate at which the global population would remain constant at around nine billion people by 2050 is presently 2.33.

The improvement in the HDI, and so the non-coercive demographic transition to a stable or decreasing population, can be very rapid, as exemplified by Iran. In 1986, Iranian women were having seven children each on average; only 40% of women enjoyed secondary education, and the corrected HDI was 0.493. By 2008, female enrolment in secondary education was 80%, the HDI 0.702, and the fertility rate below replacement at 1.8.[4] The dramatic rise in female literacy coupled with access to family planning services is again a common theme in countries with low fertility rates. How easy will it be to achieve these two outcomes? The UN estimates that 215 million women who do not want to become pregnant have no access to contraception. This could be resolved by allocating a further $3.5bn (£2bn; €2.5bn) per year to these services.[5] More than 100 million children get no schooling[6] and more than half of these are girls. According to Action Aid, commitment of an extra $10bn a year would resolve this problem. These are small sums of money, and what is lacking is the political courage and will, both in countries that suffer from poor health and—more importantly—in the global community.

We know that population stabilisation is essential for good health, we know what works to achieve it, and the resources required can be obtained through small changes in our globalised economy. Moving to curb population and so stabilise the global population is essential, relatively straightforward, and not expensive. Population stabilisation is also helpful in tackling climate change, as clearly more people will consume more resources. But here there is a more complex issue.

The HDI doesn't reflect the unsustainable use of resources, which is a persistent feature in all developed countries, with the single exception of Cuba. To effectively tackle climate change our global society needs to curb this overuse of resources. Although we know theoretically and practically how to curb population, we have no current examples of societies voluntarily reducing consumption. If we take average carbon dioxide emissions as a marker of consumption, the countries with high HDI and low fertility emit around 10 tonnes per person per year, and those with low HDI and high fertility around 1.5 tonnes per person per year. For a population of 9 billion the sustainable amount is about 1.5 tonnes. Reducing our unsustainable consumption and carbon emissions—which, to achieve a fair shares healthy society, has to be done in synergy with the necessary transfer of resources—is the truly formidable issue of our times. Many health professionals advocate implementation of the global framework of contraction (reducing global carbon emissions to sustainable limits) and convergence (a rapid but negotiable move to equal entitlements of this scientifically assessed residual carbon). This framework, which is widely supported (www.gci.org.uk), will greatly facilitate the evolution of the low carbon, fair shares society that is essential to health. Patient negotiation and perseverance will be needed to put it in place; stabilising populations is, by comparison, straightforward.

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References are in the version on bmj.com.

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REVIEW OF THE WEEK

# Nun the wiser

A play based on a longitudinal study of ageing and dementia in Scottish nuns doesn't quite hit the mark for **Colin Douglas**

*27*
Written by Abi Morgan and directed by Vicky Featherstone
Lyceum Theatre, Edinburgh until 12 November
www.nationaltheatrescotland.com
Rating: ★★☆☆

The year is 2006, the setting is a little convent in the west of Scotland, and the aim of this play is to make high drama out of convent life and dementia research—a bit of a challenge, you might be forgiven for thinking. A community of nuns (n=27, hence the title of this play, *27*) inhabits a distinctly custodial slabby grey set, and is visited by researchers from a US-UK collaboration seeking to extend an established and highly regarded project.

As in most religious orders, members are ageing and numbers falling. Quickly we get to know Sister Miriam, the mother superior, who is erudite, pious, crisp, and no longer young; Ursula, her likely successor, less polished and still middle aged; and their latest recruit—the first in 14 years—Audrey, a wild child fleeing a chaotic upbringing and still very much on probation. Name checks, eccentricities, and reported mishaps, such as cooking disasters, sketch in an offstage, non-singing chorus of nuns who complete the proposed study population.

The researchers make their pitch: important work that could transform our understanding of ageing and mental decline could have no better setting than a group not only abstemious but celibate, and blessed too, with detailed documentation—novitiate autobiographies—which allows the determination of cognitive and emotional states decades previously. And all that is asked of the participants is cooperation in a series of annual assessments and, of course, a willingness to part with your brain on demise. The nuns listen, debate, and eventually vote to run with it. We're off.

If some of this sounds familiar, there was indeed a longitudinal clinical and neuropathological study of ageing nuns based in Kentucky that began in 1986 and ended in 2007. The huge advances in the understanding of neurodegenerative disorders since the mid-1980s, together with the limited generalisability of findings from such an atypical population, render it of only marginal historical interest today. But why should that deter a playwright keen to spice up the mix, reheat, and serve up in present day Scotland? And although dementia researchers of a nervous disposition might be wise to avoid the resulting complexities, why shouldn't the rest of us just sit back and try to enjoy them?

I did at least try. By the second act, in 2009, the mother superior surprises us by appearing with her cardigan on inside out but redeems herself with a bravura performance in the annual cognitive testing. And by an intriguing twist of research misbehaviour involving illicit access to the novitiate autobiographies, it emerges that her presumed successor, Ursula—though too young to be included in the study—has a dreaded genetic inheritance: mother and father both died young from presenile dementia. But to cheer us up again, the wild child from act 1 could now be shaping up quite promisingly at the nunning.

Meanwhile, within the research team, there is conflict between Richard, an idealistic epidemiologist content with the delights of his observational study, and Sam, a junior colleague who pushes for intervention and treatments that will, of course, bring hope to millions all around the world. The lad is bright and greedily ambitious—and might even be leaking the study's priceless findings to advance his career.

Worst suspicions are confirmed when, in 2011, Sam turns up in a very smart car and an even smarter suit. Yes, he's gone over to big pharma and, just when the study's funding is about to be pulled, he makes an offer. Maybe a little intervention? In return for two years' generous support? "We can be on the same team," he tells Richard. "I don't like match fixing," his saintly senior replies. But there are limits to this saintliness. His marriage having suffered from his scientific dedication over the years, he has now fallen in love with Ursula, the mother superior in waiting. Could she be persuaded to come back with him to his little apartment in Chicago?

Meanwhile, Ursula has fallen out with God. By now Miriam, once her mentor and inspiration, is prone to go out gardening in her nightdress. Ursula rescues her, warms her up and comforts her, then rages. "There is no God," she screams. "You didn't tell me that. You never told me . . . And I hate you for it!" Not long afterwards the inevitable happens, prompting a lively convent debate about the future of Miriam's brain. But, looking on the bright side, Audrey, once the wild child, is now a pillar of the community, even leading her fellow nuns in the Angelus—though by 2011 n has dropped from 27 to about 14.

And, to be fair, there have been other shameless delights along the way. With the publication of Richard's book, a popular account of the study and a bestseller now pulling in huge royalties, he and Ursula have attained a degree of television stardom, if only for viewers in Scotland. But, as so often happens, the resultant impromptu celebration, along with some overindulgence in cava, leads to sudden sharp conflict between . . .

Turning convent life and dementia research into high drama? No problem. Just add soap.

**Limited generalisability of findings from such a surreally atypical population render it of only marginal historical interest today. But why should that deter a playwright keen to spice up the mix, reheat, and serve up in present day Scotland?**

RICHARD CAMPBELL.

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BETWEEN THE LINES **Theodore Dalrymple**

# A painter's writings

If the artistic muse rewarded effort and devotion alone, Benjamin Robert Haydon (1786-1846) would have been the greatest artist who ever lived. Often, and for years, he worked 16 hours or more a day at his art; he suffered every kind of deprivation for it. Alas, try as he might, he could rarely get things right. After his tragic death aged 60 (he cut his own throat after failing to kill himself with a gun), Dickens wrote with obvious regret, "All his life [Haydon] had utterly mistaken his vocation. No amount of sympathy with him and sorrow for him in his manly pursuit of a wrong idea for so many years . . . ought to prevent one from saying that he most unquestionably was a very bad painter."

Part of the problem was that after an illness in his childhood in which he was blinded for six weeks, Haydon could not see very well. He sometimes painted with his spectacles on and sometimes with them off: so he rarely achieved unity of scale or perspective. His taste, moreover, was for grand canvases of historical scenes, which compounded the problem. He took years to finish a picture.

Haydon was an enthusiast of anatomy, and dissected a lioness with Sir Charles Bell, the famous physiologist, artist, anatomist, and surgeon. Haydon's lack of success turned him querulous and even paranoid, attributing it to the machinations, bad faith, and philistinism of society. Philistine society might have been, but in this instance its judgment was correct.

Haydon, who must have been a remarkable man because he was the friend of many of the geniuses of his time, is now known more for his writings than his paintings. His autobiography contains a graphic and deeply moving description of the death of his mother: "Incessant anxiety and trouble gradually generated that dreadful disease angina pectoris. The least excitement brought on an agonising struggle of blood through the great vessel of the heart, and nothing could procrastinate her fate but entire rest of mind and body. Her doom was sealed, and death held her as his own whenever it should please him to take her."

Mrs Haydon, who lived in Devon, decided to consult a doctor in London. Her son and daughter accompanied her; on the way "four magpies rose, chattered and flew away." Unfortunately, there was an old superstition in Devon that four magpies signified death, and so it was to prove. Mrs Haydon firmly believed in the sign.

**Haydon could not see very well. He sometimes painted with his spectacles on and sometimes with them off: so he rarely achieved unity of scale or perspective**

Stopping overnight at an inn in Salt Hill, Haydon slept in her room, to which she had climbed with difficulty, "trying to jest to relieve our anxiety, while her pale face and wan cheek showed the hollowness of her gaiety." He woke to see "her nose was sharp—her cheek fallen—she looked as if she saw the grave and pondered its wonders . . . Her lips became livid, cold drops stood out on her forehead, and she groaned out, 'My dear children, *I am dying*; thank God you are with me.'"

Haydon sent for a surgeon. Thinking him a long time coming, Haydon rushed out to find him warming his feet at home, although he had been informed of the emergency. By the time he arrived, Haydon's mother was dead.

Haydon also wrote 26 volumes of diaries; many of the entries recorded the money worries that finally overwhelmed him. The last entry is possibly the most poignant in all literature: "God forgive me. Amen. Finis of B. R. Haydon. 'Stretch me no longer on this rough world.'– *Lear*. End of Twenty-sixth Volume."

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# MEDICAL CLASSICS

## Ikiru

Directed by Akira Kurosawa, released in 1952

Illness and death have been the subjects of many films in the past half century. One of the earliest and finest of this genre, however, must be Akira Kurosawa's 1952 masterpiece *Ikiru*. The English translation of the Japanese title means "to live," and this film is considered by many, including Kurosawa, to be his masterpiece. It is a film about a man's quest to find meaning in his life after the stoical acceptance of his impending death from cancer. Kurosawa is rightly considered by many as one of the half a dozen giants of 20th century cinema. He is probably best known in the West for his 1954 film *Seven Samurai*, which was remade as the iconic western *The Magnificent Seven* (1960).

*Ikiru* deals with the struggles of an elderly Japanese bureaucrat, Kanji Watanabe, who has worked steadfastly in a monotonous and dull job for 30 years. His wife has died, and his son and daughter in law, who live with him, seem to care little for him. The film shows Watanabe undergoing a barium meal (probably the first film to do so), and you can categorically see that Watanabe has developed stomach cancer and does not have long to live. The film deals with how Watanabe copes with what is essentially a death sentence.


He does not tell anyone about his disease and initially tries to live a hedonistic life before he realises that this does not fulfil him.

The film tells us that life is short and that you should pursue your passions before it is too late. Watanabe encounters a former subordinate and is impressed by her love of life. His passion is rekindled and directed towards doing at least one worthwhile thing during his life—namely, turning an area of derelict land into a children's playground.

In his final scene, Watanabe is shown satisfied with his achievement as he gazes over the playground he has created. Watanabe's former work colleagues cannot work out what turned a dull soulless bureaucrat into such a passionate man but suspect that he must have known he did not have long to live. Kurosawa depicts these men as cowardly because they are unable to dedicate their lives with the passion that Watanabe discovered and instead return to their dull but safe monotonous lives.

Though the film is about a man dying of stomach cancer and the philosophical acceptance of fate, it is never sentimental, but a contemplative observation of the unfulfilled way that most people go about their lives. The film urges people to be passionate about life and what they believe in and tells us to channel our energies and enthusiasms into things that we care about and not subjugate ourselves to a boring existence. This film shows how life should be embraced with passion and positivity: concepts that today are better appreciated by healthcare professionals when dealing with patients with chronic or terminal illnesses.

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# Advance advance directives

FROM THE FRONTLINE

**Des Spence**

"Fight, fight, fight!" The children thronged around the two kids wrestling each other. It was a school spectacle, before children spent their lives on Facebook. It was generally the same people—"trouble makers"—crazed guys that you never made eye contact with. But sometimes you have to fight, to save your honour, to protect your friends, to do the right thing. And so it is with the *BMJ*: fighting generally breaks out in the rapid responses; everyone enjoys the spectacle; it's what people pay their subscriptions for. I don't mind fighting, especially among polite, educated people—generally they pull their punches because they don't want to hurt you. I had a fight with some palliative care specialists. This looks bad; it's like picking a fight with nuns. We were fighting over assisted dying. I have come to support this principle after consideration, but it is an ideological concept to which palliative care specialists are deeply opposed. The law isn't likely to change anytime soon. So how else might we improve the care of the dying?

After widespread media criticism, the current unspoken ethos in medicine runs something like this: "You can be criticised for doing too little, but no one can be critical of a doctor doing too much." So with elderly patients no one wants to be accused of being ageist, therefore, intervention is the norm. Furthermore, families often have unrealistic expectations, fuelled largely by their own fear of loss. The result is often pointless intervention, admissions, fluids, antibiotics, nasogastric feeding, and polypharmacy. Few doctors think this is really in patients' best interests, and fewer still would choose these interventions themselves. The reality is that we are often just prolonging an impoverished life and a loss of dignity. Simply promoting rational non-intervention would greatly improve end of life care.

So how can we promote this within the current framework? We do have "advance directives," legally binding documents that set out the level of medical intervention that patients want. This might stipulate not being admitted to hospital and decline medical feeding and antibiotics. Although these directives have limitations, they afford an opportunity to discuss non-intervention when the patient is competent and well. However, they have not been widely taken up. So as the National Institute for Health and Clinical Excellence wrestles to find any evidence based interventions that actually deliver in the real world, the promotion of advance directives could become part of the quality and outcomes framework. Should all 70 year olds be offered an appointment to consider completing an advance directive? General practice could be pivotal in destigmatising the taboo of an unavoidable death. Medicine may not be able to end a life of suffering, but we could do much to end the suffering caused by the futility of medical interventions.

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# How to spot a "spamnal"

THE BIGGER PICTURE

**Mary E Black**

I receive a constant stream of emails announcing dodgy journals or "spamnals" from bogus individuals riding the open access publication wave. Once in possession of your email address, these parasites exhibit the same characteristics as ground elder in your garden—pesky, difficult to eradicate, and recurrent. Thank heavens for my email spam filter.

Last week I dealt with a weeping doctoral student from Poland who had been conned out of $200 for the publication of an article in a spamnal, a citation that I advised would be unwise to include on her resumé. I know of academics and professionals who have been duped into signing up as editors and then cannot get their names removed. Here are my top 10 warning signs of a spamnal:

- An unsolicited message praising your eminence in a discipline that you know nothing about (my expertise apparently includes rice yields, musicology, and mining technology)
- Poorly designed email and websites, which contain spelling and grammatical errors (the more successful spamnals can have glossy sites)
- A publisher that has multiple journals, none of which is familiar
- Editors with weak academic or professional credentials. Their contact details are often unavailable, and if you write to an editor to check if they are officially involved, they either do not write back or else send a distressed reply asking how they can have their name removed
- Scant or no information on process for authors or reviewers
- The publisher's address is either not listed or, if you can find it, it does not show up in Google searches
- The small print usually has details of a publishing fee, which is often in the hundreds of dollars but "negotiable"
- Any online journals that are distributed contain a range of poorly written and edited articles of little apparent scientific value
- The journal is not indexed in Medline, although the spam emails may suggest otherwise, and it has few citations (see Web of Science or Journal Citation Reports), and it is not registered in the Directory of Open Access Journals
- There is no "unsubscribe" button on the emails, and requests to halt the emails are ignored (and you did not subscribe in the first place anyway).

Even recalcitrant ground elder has its uses; the young leaves provide a nutritious meal if lightly sautéed. Spamnals too have a certain utility—the latest request gave me a bit of a lift on a grey London morning. Aptly, I have been asked to ponder on how diet may influence the composition of Ugandan bovine faeces.

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