



If the Noughties were precocious, the Twenty-Teens promise fireworks in fields from fashion to politics. Here's what the experts forecast.
By Glynis Horning

SUNNY WITH A CHANCE OF JULIUS



POLITICS

◀ Rewind: 'The Noughties moved South Africa from the healing era of Nelson Mandela's presidency to the renaissance era of Thabo Mbeki, who wanted to remake the country, defeat poverty, create a black upper class, and make Africa count,' says Cape Town political journalist Brendan Boyle. 'By 2008, Mbeki's failures – too much

populist who hates to say no.'

▶▶ Fast-forward: Boyle believes that, under Zuma's stewardship, 'though probably not past the election in 2014', South Africa needs to crack the education situation, create a massive number of jobs to give young people the hope that could steer them away from crime, and grow the economy so there is more wealth to share.

for the greedy new elite and too little for the increasingly restive masses – began to show. Enter Jacob Zuma, a political

'But with too many planners and too few doers, it's a big task,' he says.

This decade will show whether careless populists such as Julius Malema will be allowed to derail progress and loot the ruins, or whether idealists such as Trevor Manuel will regain control. The crunch will come between the 2014 and 2019 elections. 'That will be when we find out whether our democracy is real or just a façade,' says Boyle.

▮ Pause: 'Corruption threatens the foundations of our society, and the rhetoric against it is ineffective,' says Boyle. 'Economic desperation may fuel the populism that could chase the world and its money away – and racial polarisation is a risk. But not everyone in the ANC is oblivious to the challenge...'

FASHION

◀◀ Rewind: 'In the past decade technology has democratised fashion and the fashion media,' says Dion Chang, founder of Flux Trends in Johannesburg. We can see a new Dolce & Gabbana collection in real time online instead of waiting for fashion editors to interpret it. Blogs, tweets, Facebook and MXit posts are replacing the old voices of authority. And the recession and eco movement have triggered a move towards quality and sustainability.

▶▶ Fast-forward: 'Seasonal fashion trends will become obsolete in the next 10 years,' Chang predicts. People will invest in timeless pieces – vintage ones with provenance or green ones that obviate waste. There's already a move to customisation and personalisation, and to open-source design movements where each person in an online community contributes to the development of a design. The focus will be on smaller, conceptual design houses with an individual mind-set. Designers will stream collections live and we'll be able to order immediately, using online magnification technology to replace the sense of touch you get when shopping in a store.

There will always be a place for smart magazines, but more as collector's items, Chang says, and there will be a move to technology such as the new *Flipboard* for iPad that customises input from online news feeds, Facebook and Twitter. 'The new heroes will not be designers, models and rock stars, but people who invent things that make the world a kinder place – such as kids' seesaws that generate power.'

▮▮ Pause: International journalist Tyler Brûlé recently wrote of 'holiday-makers contorting themselves on the beach, trying to read iPad and Kindle screens in the glare of the sun,' says Chang. 'There'll be times you need a printed fashion magazine or book!'

BEAUTY

◀◀ Rewind: The most groundbreaking development during the past 10 years has probably been the incorporation in moisturisers of

stem cells derived from plants such as Swiss apples (which have the ability to heal punctures in their peel and tree bark), says COSMOPOLITAN's beauty editor, Nicolene Strydom. The latest cosmetic science has shown that skin stem cells control the growth, renewal and repair of skin, but their ability to do so is affected by environmental stresses and ageing, so the protection of these cells is the new focus, she says. Various studies by companies such as Mibelle Biochemistry in Switzerland have reportedly shown that an active ingredient based on plant stem cells enhances the barrier function of skin.

But some, like Pietermaritzburg cell biologist and lecturer Dr Carola Niesler, are sceptical. 'I'm not sure how a plant stem cell would interact with human cells and I would want to see the anti-ageing aspect confirmed in a clinical trial,' she says. 'I would also want to know how much active ingredient (if it exists) actually penetrates the skin.'

▶▶ Fast-forward: 'We're moving towards scientifically engineered products and ingredients,' says Strydom. She also believes that manufacturers will use fewer organic ingredients. 'People are concerned about the depletion of natural resources and feel guilty about using products made with rare plants and seaweeds.'

Strydom says products will do more than one job ('moisturise and regenerate, or cleanse and tone') and anti-ageing agents will be marketed to women from their early 20s. 'Skins will be so good that makeup will focus on enhancing natural colour rather than lightening or evening tone.' People will continue to tan but with 'amazing protection products'.

She believes beauty procedures that require downtime will die out. 'We'll be too busy for anything that takes longer than a lunch hour, and new products will provide fast results,' she says.

▮▮ Pause: The biggest challenge, says Strydom, will be to find 'ever-better products to help us stay younger now that we're living and working longer'.

ENVIRONMENT

◀◀ Rewind: The biggest development of the decade has been the 'mainstreaming' of human-induced climate change, says Dr Debra Roberts, deputy head of the Environmental Planning and Climate Protection Department in the eThekweni Municipality (Durban). There is also an emerging understanding that our biodiversity resources (indigenous plants, animals and their ecosystems) 'are more than billboard material to attract tourists – they're the ecological engine that drives our socioeconomic development through the ecosystem services they deliver (such as water provision).'

▶▶ Fast-forward: 'There'll be much political posturing, but ultimately insufficient action in key areas such as achieving legally binding and equitable targets on global greenhouse-gas emissions and the allocation of international funding to help continents such as Africa adapt to the impacts of climate change,' predicts Roberts.

She believes our love affair with fossil fuels is unlikely to end in time to achieve a more sustainable solution through the use of renewable energy. The result will be decreasing water and food supplies, increasing poverty and greater threat of natural disasters. Species loss and habitat destruction will escalate. 'The biggest advance we could make would be to see large-scale civil-society mobilisation around environmental issues,' she says.

▮▮ Pause: 'We've lost perspective regarding our place in nature and still don't fully understand that we live on a finite planet with finite resources. ▶

'We've lost perspective regarding our place in nature and still don't fully understand that we live on a finite planet with finite resources'

We assume there are endless resources to exploit or technologies that will save us from ourselves,' says Roberts, who has just been appointed one of the lead authors of the next report (due out in 2014) by the Intergovernmental Panel on Climate Change (IPCC).

MEDICINE

◀◀ Rewind: The past decade brought the Human Genome Project (providing new understanding of the DNA structure in human cells), the refinement of antiretroviral drugs and the recent success of a vaginal-microbicide trial at the University of KwaZulu-Natal (UKZN). 'For the first time [a vaginal gel] gives women the power to protect themselves against HIV and other STDs,' says Niesler, who is a senior lecturer at the UKZN School of Biochemistry, Genetics and Microbiology. 'Abroad, the generation of tissue-engineered tracheae (windpipes) from stem cells and their successful transplantation into people proves we're on the verge of a new medical era. Three-dimensional retinas have also been developed from embryonic stem cells.'

▶▶ Fast-forward: Adult stem cells will revolutionise medicine in the next decade, Niesler predicts. They are being tested for the treatment of numerous diseases (including cardiovascular disease, cerebral palsy and diabetes), the regeneration of defective tissue and the treatment of HIV infection. (News broke in 2009 of what is believed to be the first case of a man cured of HIV infection. He has received a stem-cell transplant from the blood of a donor with a naturally occurring mutation that makes cells resistant to HIV. He is still completely free of the virus and is off all antiviral drugs.)

In future, medicine will probably be personalised. Doctors will use information such as a patient's genetic profile to predict the risk of disease, and to target treatment and increase its effectiveness.

▮▮ Pause: The biggest challenge will be to make these treatments accessible to people, Niesler says.

'We need to create public umbilical-cord banks. We also need to increase public awareness of the promise and limitations of new therapies, and the difference between embryonic stem cells, which may pose clinical and ethical problems, and adult ones, which don't.'

TECHNOLOGY

◀◀ Rewind: In the past 10 years, Web 2.0 or 'social computing' has enabled everyone to contribute, share, create and collaborate, say Craig Blewett and Rose Quilling, senior lecturers in information technology at UKZN. 'It gave us social networking (Facebook), social media (YouTube), citizen journalism (through microblogs such as Twitter), social knowledge (Wikipedia) and search engines such as Google. It launched an era where everyone can contribute towards a "brain" that's growing at an exponential rate!'

▶▶ Fast-forward: The next decade, Blewett and Quilling predict, will bring the end of the Web. 'Already people read magazines on their iPads, check e-mail on their smartphones, connect to friends through Facebook and keep up with news through Twitter. These are all applications or "apps" that use the Internet (the technology that links computers together), but they're not the Web (those millions of pages you can scour for information).'

Mobile devices will be the main form of accessing these apps from anywhere, at any time. Linked to this will be more powerful location-based services – apps that will recommend restaurants or identify a flower based on where you are. The exciting part, according to Blewett and Quilling, is that South Africa is ahead in using mobile devices, so the future should see us readily adopting these new technologies.

▮▮ Pause: Blewett and Quilling warn that posting personal information online and carrying phones that pinpoint our location can expose us. 'Already corporations such as Facebook and Google monitor users to see what

they're doing so they can sell better to them,' they say. 'Who else is watching?' The challenge will be to protect ourselves from online identity theft, industrial and political digital attacks, and predators on social sites. But, they ask, 'Who gets to decide or gazette where the balance lies?' ◻

THE NANO REVOLUTION

Scientists here and abroad are now breaking materials into nanoparticles – a million of which can fit into one millimetre on a ruler – and shaping them, an atom at a time, into advanced new materials and minute devices with extraordinary new properties.

Watch for:

- Breathable, waterproof, wear-resistant, wrinkle-resistant and stain-resistant fabrics
- Self-cleaning glass
- Erosion-resistant cutting tools
- Nanorobots that deliver medicines directly to sick cells
- Clean, renewable solar energy from paper-thin panels
- Self-cleaning filters to produce drinking water from waste water
- High-resolution displays that can be rolled up like posters
- Far smaller, lighter, more powerful and cheaper computers with advanced security

Source: South African Agency for Science and Technology Advancement. For more information visit www.saasta.ac.za.

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