Science Writing 101

Tips from the newsroom

Leonie Joubert

www.leoniejoubert.co.za

Image by Leonie Joubert

Contents

PART 1: THE WRITER'S TOOLBOX **p 3**

The new game
What's in the toolbox?
Planning your article
Dealing with the media
Anatomy of an article

PART 2: IN PRACTICE **p 15**

Case study 1: gender and poverty in post-'94 SA
Case study 2: the 'broken' food system
Case study 3: SA's energy blueprint

PART 3: WORDSMITHS AT WORK **p 26**

Hard news
Feature article
Letter to the editor
Op ed - opinion writing
Narrative writing

PART 4: FURTHER READING **p 37**

A few more useful guides and examples




Images by Eric Miller, from *The Hungry Season*

Part 1: The writer's toolbox

The new game

We humans have been telling stories for longer than we've even had the written words to do so. It's part of our DNA. This booklet is about how we can take our inherent nature as storytellers, and use it to tell a wider audience about the complex and fascinating science that we're all involved in.

Scientific work is written up in a specific format, whether it's for a journal publication, or a policy brief, or a 'grey literature' report.

Storytelling using the journalism format is a different way of presenting information, and can be very effective in reaching a wider audience, and making complex science accessible to a non-specialist audience.

When communicating your science, you can either produce your own material, in which case this booklet will explore a few ways to apply basic journalistic writing principles.

Or, you can communicate your science by being a main source for a journalist or science communicator. This booklet includes a section to help you package your material for a professional writer, and build a good relationship with reporters.

Brain-training for a new 'ball game'

When you've been writing formal reports or academic articles for years, it's as if you've been playing a game like soccer: kicking a large round ball about with your feet. The more you do it, the more you brain-train yourself into being nimble and fleet of foot for this particular sport.

Now, imagine that writing for a more popular audience is like a game of tennis. Now you're being asked to take up a tennis racket with your hand, and knock a small ball around. You're using the same part of your brain, it also involved eye and ball coordination, but your body has to work in a slightly different way.

Practice, practice, practice

The golfer Gary Player famously said that the more he practiced, the luckier he got. What he meant is that the more you hone your craft, the more naturally it comes to you. The same applies to writing in a non-academic way: the more you do it, the easier it becomes. But it needs practice, practice, practice.

Read, read, read

And reading. You have to read the style of writing that you want to emulate, so you can 'osmose' it. Read newspapers, magazines, online news titles, and collections of non-fiction essays to get a sense of what makes good storytelling.

Images by Leonie Joubert

What's in the toolbox?

Here are a few useful writing styles that you can use as templates to process how to best tell your story to a general audience:

News

This is a short, sober, factual and neutral account of an issue; it is dispassionate in tone, written in the third person, and without the writer's opinion ('editorialising'). It should be relevant and current. The copy should be short, tight, and to the point. Put your most important points at the top of the story.

Less is more, with this style. Stories usually run from 100 to 500 words.

In hard news writing, the facts and views presented in the article are from verifiable sources, other than the author. That means you need to attribute facts to sources. For science communication, an article written in a news format can quote research you've done or a report you've written, but it must be credible, and preferably published and in the public domain, and peer-reviewed in some way.

Feature

These articles are longer (500 to 1 500 words), with a sometimes 'softer' approach. It might introduce narrative style techniques such as scene setting, anecdotes or characters (see 'Narrative', below), analysis, or a more in-depth discussion of an issue. The tone can be less neutral and serious, but this depends on the issue, and publication title. It is still rooted in traceable fact, supported by expert sources and opinion.

Usually these are written in the third person, which gives the piece distance between author and subject. However, there are times when first person voice is appropriate.

Third person: is you, standing outside a scene, observing and describing what you see, using 'he', 'she', 'it', 'them', 'they', etc.

Second person: 'you' or 'yours'.

First person: is you writing yourself into the scene, using terms like 'me', 'I', and 'we'.

Features often have a human interest story, and are highly descriptive of either place or person or event.

There are many possible approaches to feature writing: similar to hard news in tone, but longer and more analytical; or ones that are highly descriptive; the travelogue style; a personal profile; or human interest; or historical; and so on. What works well is to find a person, or place, or anecdote of some sort and use that as the lens through which to explore the ideas you want to explain in the piece.

Press release

This is similar to a news article in tone and structure, but without the 'balance' of views, and usually pushing an agenda or idea or product or your organisation's brand or position.

Blog

Short for 'web log', this is a personal, often journal-style format about the writer's life, experiences or observations. It's a bit like having a column in a newspaper, but the entire site is your own, or your institution's. Entries are often first person, but can be third person. The tone can be serious, humorous,

pondering: it's entirely up to the writer to choose his or her own voice and character.

The difference between your diary entry and a blog is that it has to be publicly relevant. Without the limits of printed space, it's easy to be undisciplined and write long, self-indulgent pieces. Keep it tight, short and poignant.

Pros: you're the boss or editor (in news parlance, that's the 'gatekeeper'), you decide on what goes in and what doesn't, you choose the tone and focus.

Cons: without newsroom structures around you, like sub-editors, news editors and the likes, you don't have the scaffolding of an editorial process or 'peer-review' system that can catch problems with language (spelling, grammar, etc) or fact. Have a colleague on standby to proof read your copy before posting it. It can also be self-indulgent or navel gazing. You still need to apply the 'so what' principle to your blog (see 'Structure your information: the 'so what?' , and the 5 Ws and an H' below).

Opinion piece

An analytical piece written from the perspective of you, the author, the opinion piece includes your own views and opinions, whether in first or third person. But you must establish your credentials: i.e. give your title, the institution you're with, and the research that your opinion is based on.

The piece can be anything from 300 to 1 500 words in length, depending on where it's going to be published. Getting an opinion piece into a newspaper's 'op ed' ('opposite the editorial') pages is a good way to get reach for your message. The equivalent advertising value of those pages can be tens of thousands of rands.

Image from *City Desired* by Sydelle Willow Smith

Publishing online frees you from the space constraints of a hard-copy page, but that shouldn't be seen as licence to write excessively long pieces. People have short attention spans and often don't scroll down more than two or three times on a web page. Be disciplined in your writing.

Letter to the editor

This should be short, tight, and to the point (50 to 200 words, depending on the newspaper), speaking directly to an issue that has come up recently in the media. Take the same approach as a hard news story: open

Image by Leonie Joubert

with the most important point or idea, and expand from there. It's an powerful slot in a congested media landscape, your way to hold the public microphone for a few minutes. Keep it factual and professional, because its your name at the end of it. You can ask for anonymity, i.e. publish under a pseudonym, but you must identify yourself to the publication, otherwise they won't consider publishing your letter.

Narrative style

Long-form non-fiction writing is feature writing on steroids. You're usually taking a person, or place, or event and using highly descriptive storytelling, as a lens to zoom in on an issue you wish to explain to the reader.

It uses many of the same storytelling techniques as fiction writing (character, plot, climax, scene setting, highly descriptive language), but weaves it together with the facts of an issue, and maybe some analysis.

But unlike fiction writing, you can't make anything up. So if you want to show how your lead character is pondering on a thought, while chewing on a stalk of grass, that actually has to have happened. Either you have to have witnessed the scene, or you have to have a reliable third party account of that happening.

This means either you have to be in the field, interviewing and observing, or you have to find other people who were there and get them to remember as much as possible what happened in a scene or event.

Human interest stories, told in this way, are a terrific way to engage the reader. It's challenging when your work might be more theoretical in nature, such as shaping energy or water policy analysis using desktop research, for instance. But whenever you are in the field, in a community, or working with colleagues, look for an interesting moment in time and see if that can become the scene through which you begin to explore an idea.

It is one of the hardest forms of writing, and requires a great deal of extra research time, and space to publish longer word counts. Usually 1 000 words and longer. But you can also squeeze powerful narratives into shorter formats (see 'When the sky fell').

Planning your article

An hour of preparation and planning can save you from a day of writer's block or the frustration of re-writing. Spend time sharpening your axe before you take on the thicket of reworking your 5 000-word scientific report into a 350-word news piece.

Know your audience

Imagine you're sitting across from your mum, having a cup of tea, and telling her about your work. Now put your boss across the table from you. And now, your friend from 'varsity who you have haven't spoken to for a year. You'll use different ways to deliver your information to each of them: different choice of words, different concepts, different levels of detail.

You need to know precisely who you're talking to, when you start your article, because it determines what format you choose (news, feature etc), the language, detail etc.

When you know who you're talking to, you'll know what voice or tone to use - and your reader will connect better with you as a result.

Know your medium

Where your piece is going to be published will determined the length, tone, angle and style of the story you write, be it a newspaper's editorial letters page, or a newsletter, a blog, or a magazine-style feature article.

Decide on this before you put pen to paper. Planning this way can save you hours of frustration once you sit down at face the blank page.

Keep it conversational

When you've spent years playing soccer (writing neutral, technical reports, in a formal, often academic style, for instance), it can be hard to break free of that style and begin to knock a tennis ball around. But every time you write a heavy, formal sentence, think to yourself 'how would this phrase sound if I spoke it to my mum, instead of wrote it down like this?' Try reading it out aloud to yourself.

Lose the jargon

Jargon refers to the words or expressions used within a group where only they really know the meaning. Experts in every field use it regularly, it's a convenient form of 'short hand' which you use to speak quickly and effectively with your peers. But this kind of language is 'tribal', it reinforces the clique, can be elitist, and is exclusionary of outsiders.

Image by Michael Groenewald

Every time you throw in a piece of jargon, you risk losing your reader. Just as with clichés, try to think of a different, more user-friendly way of saying the same thing.

Examples of jargon from climate change: upscaling GCMs (general circulation models) to project the impact of anthropogenic ghg emissions; the albedo effect; climate negotiations will talk about COP and MOP and REDD and REDD+ and common but differentiated responsibilities – what does any of this mean?

Write in the 'active' voice

Scientists often write in the 'passive' voice: *Fun was had by all*. For journalists, this is like nails down a chalk board. Write in the 'active' voice: *Everyone had fun*.

Structure your information: 'so what?', the 'angle' & the '5 Ws and an H'

Turning a 10 000-word report into a 500-word story can be overwhelming.

Remember, you're not trying to condense the entire piece, you're just lifting out one or two relevant ideas for this particular audience and article. The ideas you can't use in this article, can go into another one, with a different focus or angle.

Here are some useful ways to structure your thoughts amidst the maelstrom of ideas, facts and details.

- ***Ask the 'so what?' question:*** why does this story matter to this audience today. This will help you decide on your 'angle', i.e. decide on the key idea that your whole story will be built around. Try to be specific: if you're working in the field of non-communicable diseases (NCDs), don't give the broad stats about how pervasive they are (most know this already), but say how bad they are in the area where you did your research, or what trends are driving it here.
- ***The 'angle':*** this is the main point or the theme you want to explore in your article. Either it's your 'take home message', that one important thing you want the reader to get from the piece. Or it's the conclusions of your research: what's new, exciting, interesting, surprising in your work? Continuing the example above: your work is investigating whether there are genetic reasons to explain the high rate of NCDs in a specific racial group the Western Cape. This is a very specific, 'surgical' angle.
- ***Journalism 101:*** Who did What, When, Where, Why and How. This helps you lift out the details that are most important to the angle you've chosen.




Images by Leonie Joubert

A practical example

The journal article

The article *Ecosystem Level Impacts of Invasive Acacia saligna in the South African Fynbos* was published in the journal *Restoration Ecology* in March 2004 (Vol. 12 No. 1) by authors S. G. Yelenik, W. D. Stock, and D. M. Richardson.

There is a great angle, and important amounts of information, in the abstract which follows. But the underlined words are examples of jargon, inaccessible academic language, or levels of detail, that need a different treatment if they're to go into a popular article.

Abstract excerpt

Recent efforts to clear invasive plants from the fynbos of South Africa forces managers to think about how N2-fixing invasives have altered ecosystem processes and the implications of these changes for community development. This study investigated the changes in nitrogen (N) cycling regimes in fynbos with the invasion of Acacia saligna, the effects of clear-cutting acacia stands on soil microclimate and N cycling, and how altered N resources affected the growth of a weedy grass species. Litterfall, litter quality, soil nutrient pools, and ion exchange resin (IER)-available soil N were measured in uninvaded fynbos, intact acacia, and cleared acacia stands. In addition, a bioassay experiment was used to ascertain whether the changes in soil nutrient availability associated with acacia would enhance the success of a weedy grass species. Acacia plots had greater amounts of litterfall, which had higher concentrations of N. This led to larger quantities of organic matter, total N, and IER-available N in the soil. Clearing acacia stands caused changes in soil moisture and temperature, but did not result in differences in IER-available N. The alteration of N availability by acacias was shown to increase growth rates of the weedy grass Ehrharta calycina, suggesting that secondary invasions by nitrophilous weedy species may occur after clearing N2-fixing alien species in the fynbos. It is suggested that managers use controlled burns, the addition of mulch, and the addition of fynbos seed after clearing to lower the levels of available N in the soil and initiate the return of native vegetation.

The hard news story

Wattle trees pollute soil with nitrogen

When Australian golden wattles grow unchecked in fynbos communities in the Western Cape, they flood the soil with nitrogen, which pollutes it in a way that stops indigenous plants from growing. The way they 'fix' nitrogen in the soil then paves the way for other weedy grass species to take root. [Article continues…]

Dealing with the media

You can either hone your own skills as a science writer and communicator. Or you can be a source of information for a practicing journalist or science communicator. Here are some useful tips if you're being interviewed by a journalist, and treated as a source of information, for a print or broadcast story.

- ***Speak slowly:*** the journalist is trying to process your information, write or record what you're saying, and check that the next prepared question dovetails with what you've just told them. Give their brains a chance to catch up. Pause. Don't be uncomfortable with the silences that happen in those interviews. Be patient when they interrupt you and ask you to slow down or repeat yourself.
- ***Repeat numbers:*** when you include figures and numbers in your content, say them slowly, and offer to repeat them.
- ***Spell names, give titles:*** when you spell names, do so slowly and check that the person heard you correctly. Always give the title of the person, and the name of the organisation or institute they work for.
- ***Three 'take home' messages:*** whether you're giving information for a short news article (300 words) or a 30-second radio clip, be prepared with your 'take home' messages, i.e. the three key points you want the journalist to 'get'. If you can, present those at the beginning of the interview and try to repeat them at some point. It helps to be prepared, and to go into the interview knowing precisely what the most important issue is for that story.
- ***'Sound bites':*** when doing a radio or television interview, try to speak in 'sound bites', i.e. let each sentence be a complete point so that the journalist doesn't struggle to edit later.

Image by Leonie Joubert

- ***Start your point with the interviewer's question.*** For instance:

  Journalist: What will the impact of climate change be on rainfall in Cape Town?

  Your answer - wrong: Well, the modelling… um, modelling indicates that it will get drier in xx month and…

  Your answer - right: The impact of climate change on rainfall in Cape Town will likely be xxx. The modelling we have done at the University of Cape Town suggests…

- ***Dressing for the camera:*** red and orange look good on screen. Solid colours also work well. Busy patterns are a no-no because they distract the viewer and look bad on screen.

- ***Hone your skills:*** if a journalist knows you're a good interviewer (that you speak in good sound bites, for instance) they will keep coming back to you.
- ***Pause, think, answer: s***ometimes, when a journalist calls for an interview, you might want to ask for a few minutes to gather your thoughts before you go on the record. Ask if the journo can call back in 20 minutes, and then use that time to lift out your key messages. But be aware that they are on deadline and can't be put on hold for too long.
- ***Fact checking:*** traditionally, journalists don't send their 'copy' to their sources for vetting, because they are often reporting about controversial politics, corruption etc. But science writing is usually different, and there is scope for getting sources to check the copy before it goes to print or air. Some science journalists may be willing to let you check their stories before publication, if there's time (remember, journalism usually runs on a much tighter time schedule than academic writing).

  Do: treat this as an opportunity to check facts, correct errors, and make sure your ideas have been accurately represented.

  Don't: treat this as a chance to rewrite their story! It's not your soap box moment.
- ***Deadlines:*** most journalists work on very fast turnaround times. If they're working on hard news, they'll be assigned a story first thing in the morning and will have to file their copy by mid-afternoon. So if they want to interview you, or need a reply on fact checking, it needs to happen fast. Today! Or maybe there are a few days grace. But not the weeks or months that a peer-reviewed article takes.

Anatomy of an article

The following 'diagrams' shows how different articles structure their information. Understanding these 'models' for writing can help you as you sit down to write for a general audience. Try to be deliberate about planning your piece - it will save you time and frustration later in the process.

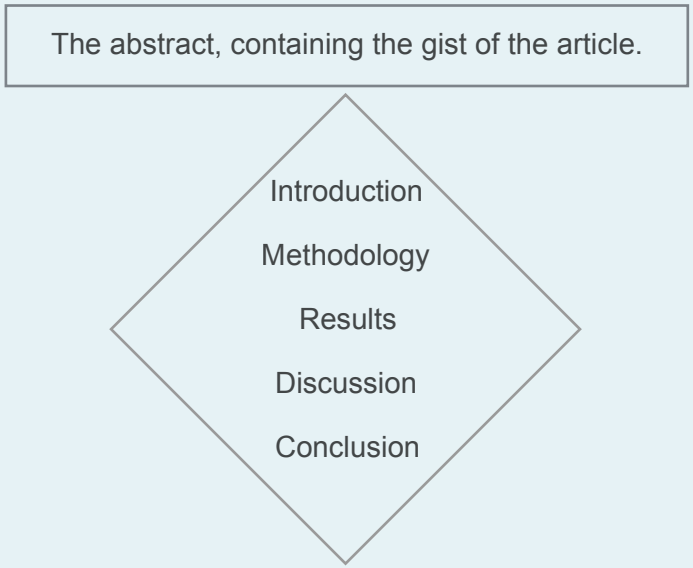
The idea is to compare a traditional academic article story structure, with those of the different journalistic styles.

Academic article

If you were writing a news article based on a peer-reviewed article, most of your information will come from the abstract, discussion, and conclusion. The deep detail of your methodology will often be too technical for a popular audience.

Other 'grey literature' reports - reports based on good research but which haven't gone through a formal peer-review process as a published journal - might structure the articles in this way. Executive summaries are similar to the abstract.

Figure 1: The academic article model



The most important information in the body of the article might be weighted towards the 'results', 'discussion', and 'conclusion' sections. These will contain important information for the scientist, but the level of detail might be too much for a popular audience. You will probably find your key message in your abstract and conclusion, which you will then prop up with supporting facts from the discussion and conclusion.

News story

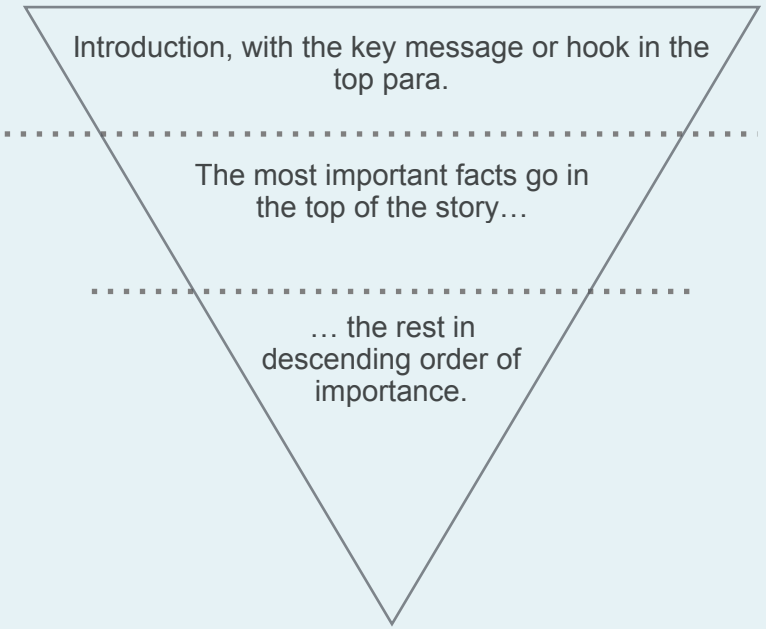
The traditional 'inverted pyramid' used for hard news starts with a strong 'lead' statement, puts the most important information or idea into the top of the story, and then follows with less important information further down. This is useful because a time-pressured reader can scan the headline and intro paragraph and get the gist of the piece, before deciding if they want to read the whole thing, or move on to the next story.

When writing a news story, ask yourself:

- 'So what?', why does this story matter, to this audience, today?
- What is my strong 'lead' statement (which is informed by your most important conclusion from your research, or possibly your 'take home' message)?
- Once I've answered the 5 Ws and the H, how do I structure those to support the lead statement?
- How do I order this so that the most important information goes at the top of the story, and the supporting facts come further down?

You can apply a similar format to opinion pieces, press releases and letters to the editor.

FIGURE 2: THE INVERTED PYRAMID FOR HARD NEWS



The inverted pyramid comes from the days before computer-based publishing in journalism, when there simply wasn't time to do lengthy rewrites of articles that were too long to fit onto the day's page layout. It was more efficient to write articles where the sub could just cut the bottom few paragraphs off the story without losing its meaning.

Feature and narrative style articles

It sounds so obvious, but a feature story needs to have a beginning, middle and an end, but with one strong backbone, or 'golden thread' running throughout.

Features can take the structure and tone of a hard news story, just longer. Or, if you want to stretch your creative muscles, you can go for a more narrative-based style.

This type of article opens with an anecdotal introduction. Imagine you're standing behind a movie camera and zooming in on one moment in time, a single scene: describe it, the space, and what's happening in the space. It may not be immediately obvious to the reader what the story is about, but it's a way of leading them into it.

Writing in this way means you have to get out into the field and find people or scenes that either become your central characters, or form the background to the imagery you create.

Remember, even though you're writing creatively and descriptively, everything you write about has to have actually happened. Either you must have witnessed it yourself, or have a reliable source who has described the event or scene to you.

Once you have created this movie-style intro, weave research facts into your narrative, including the 'so what' question, keep your angle, and apply the '5Ws and an H'.

FIGURE 3: FEATURE AND NARRATIVE

BEGINNING

The anecdotal ***introduction*** is highly descriptive, usually involves a character or place, and captures a scene as if viewing it through the

NUT GRAPH

The '**nut graph**': a paragraph saying what this story is about,

MIDDLE

The ***body*** of the story.

This is the nitty gritty of the research or idea you are trying to convey.
It contains the ***5 Ws*** and the ***H***.

This could be five paragraphs long, or 5 000 words, depending on space constraints or the purpose of the story.

Narrative long-form writing needs more word space to build scene, character, and plot.

END

The ***conclusion*** or '***kicker***' is often also an anecdote, and refers back to the scene, person or story that appears in the introduction.

Part 2: In practice

Case study 1: gender and poverty in post-'94 SA

Article title

Gendered trends in poverty in the post-apartheid period, 1997 - 2006 (by Dorrit Posel and Michael Rogan).

The abstract

This study investigates whether trends in the extent, depth and severity of poverty in South Africa over the past decade have been gendered. We examine first whether females are more likely to live in poor households than males, and whether this has changed over time; and, second, how poverty has changed among female-headed and male-headed households. We use data provided by the 1997 and 1999 rounds of the October Household Survey and the 2004 and 2006 rounds of the General Household Survey. These surveys have the advantage of collecting information on the individual receipt of social grant income. We test whether our findings on gendered trends in poverty are robust to different poverty lines, to the possible underestimation of household income and to adjustments for household composition.

The 'so what' and angle

Why does this story matter to this specific audience, today? Let's assume the audience is your literate, socially and politically aware middle-class reader, such as readers of the *Mail & Guardian*.

The answer: In spite of many changes to the way society tries to protect women since the end of apartheid, they're still getting poorer because of various structural factors in society.

The 5 Ws and the H

who - women in South Africa

what - have got poorer, even though the law is more in favour of women now

when - between 1997 and 2006

where - in post-apartheid South Africa

why - increase in income gap; limited to low paying, low skilled jobs; burden of HIV / AIDS

how - include figures illustrating the extent of measurable poverty and the increased income gap, or other figures to support the 'why' and the 'what'.

OPTION 1: Hard news story

Women are poorer in the new South Africa

by Staff Reporter

More than a decade into the new democracy, South African woman are becoming poorer, even though labour laws now grant them more protection and equality than ever before. Their slip into poverty is linked with decreasing job prospects and low wages, according to new research from the University of KwaZulu Natal (UKZN).

The result of this, and other structural challenges, is an increase in the income gap between men and women since 1994.

This is according to UKZN economics professor Dori Posel, who said her recent analysis of the trends in poverty amongst women had shown that in spite of labour laws designed to redress gender inequality in the work place, women are still poorer in post-apartheid South Africa.

'Rising unemployment and an increase in the number of women-headed households has also contributed to this growing poverty,' Posel explained. [Article continues…]

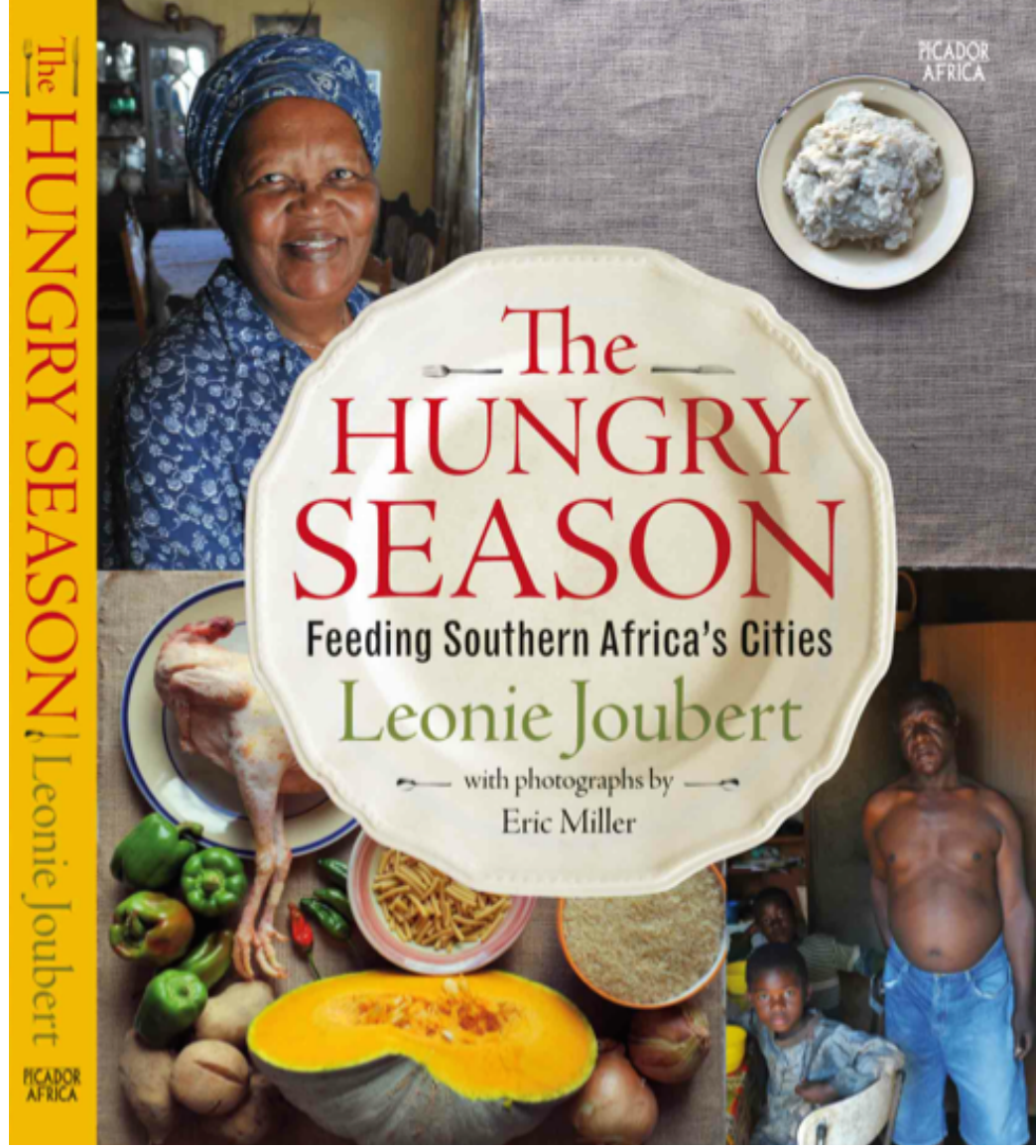
OPTION 2: Feature article

The following piece is an adapted excerpt from a popular science book looking at food security in Southern Africa, called The Hungry Season: feeding southern Africa's cities (Picador Africa 2015). The story is structured as follows:

- An ***opening scene*** paints a picture for the reader, even if it is not immediately apparent where the story is going.
- The '***nut graph***' links the anecdotal opening with the body of the story. It explains the key issue, in a nutshell, in one paragraph.
- The ***body*** contains the meat of the article.
- The ***conclusion*** scene, often called the 'kicker' and may refer back to the anecdotal introduction.

The purpose of including this piece is to show how you can use narrative style technique such as character, scene and plot, as a way to lead into a story which discusses the broader ideas of the Posel article. The story uses the experience and life of one person, through the lens of food, to show the coping strategies of a homeless unemployed woman. This becomes a way to explore the ideas about gendered poverty in South Africa, and reflects on Posel's research findings.

Bear in mind that telling a story in this way requires a specific kind of field research, and has certain ethical considerations.



Images by Eric Miller, *The Hungry Season*

Sunshine Corner

by Leonie Joubert

from The Hungry Season

[Introduction] *The cockerels of Sonskynhoekie bellow with self-importance, even though it has been several hours since they roused the sun from its slumber. No one is paying them the slightest heed.*

The breakfast bell here commands more authority, sounding out at mid-morning to call the residents of this dusty smallholding north of Pretoria into ragtag order at the door of the communal kitchen.

Camp matriarch Cornelia Terblanche watches over the queue of the dozen or so people line up with porridge bowls, old ice cream tubs and Tupperware containers, each waiting for the two or three ladles of porridge that will be served up by the kitchen help. As fast as they are served, they trail quietly back to their little wooden or corrugated-iron shacks.

About 50 people live here in the Sonskynhoekie Sorgsentrum, an informal care centre for down-and-outs, mostly poor, jobless whites. R400 a month buys you a roof over your head, and two blank-canvas meals a day – pap or bread for breakfast, and a pretty spartan dinner with starch, a bit of meat and maybe some vegetables.

Today's breakfast is Maltabella porridge. But some days it will be oats, other days an 'energy pap', sometimes bread – all donated by local retailers or farmers. At around 1 p.m., Cornelia will go into the centre's stores and decide what the camp's dinner will be tonight: medieval-looking beef bones boil up in two slightly buckled aluminium pots, served with potatoes, onions and rice.

The former car guard folds her stout arms into a clinch across a mountainous bosom, and watches over things as breakfast is served. After nine years here, she has worked herself up in the informal hierarchy of the centre, one of many such formal and informal settlements that have popped up in and around Pretoria in response to the cuts in state jobs in the railways and steelworks, which once gave sheltered employment to blue-collar white workers under the apartheid state.

Nine years ago, Cornelia arrived penniless and destitute, with nothing but a small bag of clothes. Back then, she did what she was told, slept in the shack she was given, ate what was splashed into her bowl each day. Today she controls the resources of this camp: she brings in a few thousand rands' worth of food donations every month. She holds the key to the storeroom. She manages the kitchen roster. She decides what each day's meals will be.

Hard work and careful manoeuvring have got her one of the best shacks, with electricity and a basic kitchen. She can afford to buy her own food and make her own meals, so she doesn't have to queue for the communal pot any more. Her job allows her to watch

over the rest of the camp while they single-file their way to the front of the meal queue twice a day.

She has clout, and she wields it.

[**Nut graph:** linking the introduction with the body of the story, reflecting the 'lead statement' of the Posel argument.]

Cornelia's story is one of wily survival as a homeless and unemployed woman on the outskirts of Southern Africa's economic engine room, Gauteng. Hers is not a scavenged existence. She is a resourceful person making her way in a world where women remain poorer than men, in spite of the country's efforts to close the economic gap between men and women. According to a new study by an economist at the University of KwaZulu Natal, women in South Africa have been getting poorer since the dawn of the new South Africa in 1994. Economist Prof Deborah Posel from UKZN has found that in spite of government's efforts to give women equal access to education and jobs, and ensure they get fair wages, women are still falling behind their male counterparts when it comes to their rands and cents.

[**Body:** weaving Cornelia's story into the details of the 5Ws and the H, and with additional important supporting material from the Posel article.]

[**Conclusion:** another anecdote which alludes back to the earlier scene and closes the story in a neat loop.]

There is a pause. A clatter of birdsong from the nearby gum tree intrudes as Allison Jackson tucks into the breakfast queue.

'And here's my kitchen bitch.'

Cornelia's jocularity draws a sideways glance from the out-of-work registered nurse. At 56, Allison works off the R400-per-month rent she cannot afford to pay by cleaning the kitchen. Singled out by the matriarch, the diminutive woman smiles shyly from beneath a blunt, untailored fringe while she holds her breakfast bowl in fingers that have contracted into right angles with arthritis.

Somehow, in this awkward space in the breakfast line, her life gets laid out in bullet points: married to an American who spent time in Vietnam; fifteen years with him in Israel; he goes back to New York to die of cancer; she returns home, meets another man, but now he is gone too (her eyes gesticulate skywards); there is a hint of booze in the story, but after a bout in hospital following an alcoholic seizure she has decided to steer clear of the bottle.

Too young for a state pension, unable to practise as a nurse, she survives on the dregs of a trust fund left to her by her father, but the R300 to R400 a month income has been leached down to just R30 by the collapsed markets. And so she cleans the kitchen Cornelia has taken charge of, and accepts the moniker of 'kitchen bitch'.

Everyone here has a story. Most of them want to hide it. Everyone here obeys the hammered commands of a discarded tyre rim that hangs from a nearby gum tree that clatters to life several times a day: the call to rise at 7 a.m., morning devotions at 7.30 a.m., come to breakfast at 10 a.m., dinner at 5 p.m., church on Sundays.

And everyone here eats the food that Cornelia decides will be doled out each day.

Case study 2: the 'broken' food system

Document title

Release of the 2013 South African National Health and Nutrition Examination Survey (SANHANES-1) by the Human Sciences Research Council (HSRC), by Shisana, et al.

The introduction

Health and nutritional status, particularly that of young children, serve as important indicators of development, social upliftment and access to resources within communities at large. According to World Health Organization (WHO) and the Constitution of South Africa, sustained access to health care and adequate food for a healthy and active life is a human right. Despite some notable achievements in the South African health care system, challenges remain to address the high disease burden, largely due to HIV/AIDS and tuberculosis (TB) and the emerging epidemic of non-communicable diseases (NCDs), the health care consequences of trauma and violence, inadequate financing, the existence of a two-tiered health care delivery system, the escalating cost of medicines and skilled human resource shortages (Shisana 2013; Mayosi, Lawn, Van Niekerk et al. 2012).

The South African National Health and Nutrition Examination Survey (SANHANES-1) was established as a continuous population health survey in order to address the changing health needs in the country and provide a broader and more comprehensive platform to study the health status of the nation on a regular basis. The first SANHANES, SANHANES-1, provides critical information to map the emerging epidemic of NCDs in South Africa and analyses their social, economic, behavioural and environmental determinants. Data on the magnitude of and trends in NCDs, as well as other existing or emerging health priorities, will be essential in developing national prevention and control programmes, assessing the impact of interventions, and evaluating the health status of the country.

The 'so what?' and angle

Why does this story matter to this audience today?

The answer: Lifestyle-related diseases are becoming a greater burden on the health care system than communicable diseases like HIV and TB. The Human Sciences Research Council (HSRC) has released its latest findings on the state of health and nutrition in South Africa, showing the extent of hunger and malnutrition on the one hand, and problems of overweight, obesity and the associated illnesses such as diabetes and heart disease on the other.

The 5 Ws and the H

who - the South African population

what - is at once hungry and malnourished, but also overweight and ill

when - now (current trends)

where - across the country, but zooming in on regions with exceptional or extreme trends

why - the 'obesogenic' environment and problems with access to healthy food is driving an epidemic of malnourishment at a micro-nutrient level, but over-nourishment at a basic calorific level

how - this answer could reflect on how the research was done, or how lifestyles are changing, or how the illness is impacting on individuals, communities and society at large

OPTION 1: The hard news story

The food system makes us fat, sick and hungry

by Staff Reporter

While a quarter of South Africans go to bed hungry every night, many of us are still getting heavier and sicker with diseases associated with being overweight, according to the Human Sciences Research Council (HSRC).

In a countrywide health survey done in 2012, the HSRC found that 26% of South Africans commonly experience hunger. The same percentage of children are 'stunted', a term that refers to the measure of a child's height-to-age, and indicates chronic undernutrition.

At the same time, though, the number of people who are overweight or obesity is escalating dramatically: over half of all women and a third of men between the ages of 45 and 54 are overweight or obese. This is linked with chronic, debilitating and expensive diseases like diabetes, heart disease, and certain cancers.

Researchers found that this chronic undernutrition and obesity co-exist in the same communities and even the same households.

This is mostly due to a dependence on a cheap, high-calorie diet that is low in important nutrients such as protein, vitamins and minerals. People are eating foods that are highly processed, packaged, cheap, and 'fast'.

This is a result of South Africa's historic low-wage economy, coupled with more recent social changes such as urbanisation, the so-called 'dietary transition', and the industrialisation of the food system.

Image by Sydelle Willow Smith, *City Desired*

Image by Sydelle Willow Smith, *City Desired*

OPTION 2: The feature article

This is the story plan, rather than the actual story.

Introduction: A three-paragraph scene detailing how Mrs Ncani cooks a meal of *imifino*, a dish of mealie meal and spinach, in a buckled aluminium pot on a two-plate stove in her RDP house in Atlantis, outside Cape Town. Describe how the meal has little protein, is high in cheap refined carbohydrate but has spinach from a local spaza shop, bought with social grant money she gets because she is diabetic and can't work.

'Nut graph': Mrs Ncani's story is typical of the growing problem of lifestyle-related diseases which are fast outpacing communicable diseases such as HIV and TB as the main burden on the healthcare system in countries like South Africa. The availability of cheap, nutritionally empty food, combined with poverty, means poorer people have to carry the so-called 'double burden of disease': the health implications of being overweight, while at the same time being under nourished at a nutritional level.

Poverty forces lower-income communities to make poor dietary choices, the consequences of which perpetuate poverty through the burden of these illnesses. This is a typical 'wheel of misfortune' in poorer communities.

Body: Weave Mrs Ncani's story (about how she came to live here, where she gets her income, how she found out she was diabetic), with the published science explaining why the broken food system is pushing people like her to make food choices that are the root cause of diabetes, heart disease and certain cancers associated with obesity. Include new emerging ideas about how the medical community previously looked at individual behaviour as the root of the problem, whereas now they see the bigger issue as being that of the broken food system and wider issues of poverty.

The body copy could also allude to the fact that Mrs Ncani's daughter passed away recently due to HIV, and mention that Mrs Ncani has a food garden. Talk about the link between improved nutrition, which strengthens the immune system and helps the body cope with HIV: an important link between health and nutrition in the broader food security discussion.

'Kicker' or conclusion: Describe in detail how Mrs Ncani pricks her finger to draw a round droplet of blood, which swells like a pregnant belly on the tip of her finger, so she can test her blood sugar levels.

Case study 3: SA's energy blueprint

The civil society report or 'grey literature'

The South African chapter of the international civil society collaboration, the Electricity Governance Initiative (EGI), backed by the World Resources Institute, produces the Smart Electricity Report in 2013. This is an alternative to the Department of Energy's (DoE's) Integrated Resource Plan (IRP) which is aimed at being the country's blueprint for how to fire the electrical grid for the next two or more decades. Infrastructure build under this plan will lock the country into a set development path for several decades to come.

The opinion piece

An analytical piece for the Mail & Guardian might take the following approach in terms of angle and content.

The 'so what' and angle

So what: the Smart Electricity Report, produced by leading civil society organisations in the energy arena, finds significantly different energy demand projections compared with the government's IRP, because it includes greater energy efficiency measures in its modelling, thus reducing the need for additionally costly coal-based infrastructure investment in the future.

The 5 Ws and an H

who - the South African chapter of the international civil society collaboration, the Electricity Governance Initiative, backed by the World Resources Institute

what - during a modelling exercise, found that energy efficiency measures substantially reduced South Africa's projected electricity needs over the next two decades

when - the modelling process was recently completed, following the DoE's protracted IRP process

where - in South Africa (if explaining where the modelling is applicable); modelling was headed by the University of Cape Town's Energy Research Centre (if focusing on who did the modelling)

why - the EGI's modelling was done after civil society and many researchers expressed concern about the faulty modelling assumptions used by the DoE, and were further frustrated by the fact that the DoE seemed to not integrate the concerns expressed during the public participation processes into the second round of modelling

how - modelling was done by ERC researchers using 'xyz' model

Other possible angles

A newsletter to civil society organisations might explain how the EGI's modelling process is scientifically robust and peer-reviewed.

An article for the Sunday Independent might focus on the fact that the IRP process was largely driven by behind-closed-door industry and government interests, and that the findings are therefore contestable because they are informed by vested interests and did not follow sufficiently transparent processes.

OPTION 1: The opinion piece

Efficiency still not part of SA's energy future

by Hilton Trollip and Leonie Joubert

Cape Times, 24 November 2010

You're in a water-scarce part of the world. You have a dam that's running perilously low, a city of several million people needing water, but with a series of leaking pipes linking the two. Do you spend your money on building a new dam, or plugging up the leaks first?

International best practice regarding developing energy infrastructure would say you plug the leaks, but South Africa's new Electricity Integrated Resource Plan doesn't agree. It wants to build the dams, and keep pouring energy out through the leaking pipes.

The electricity blackouts of 2008 show that our power "dam" is running low, and we need to build more infrastructure soon. But a quicker, easier, and more environmentally friendly way to address the problem is to plug the leaks by reducing the drain on the grid through making users more energy efficient. This can start immediately, using existing technology, and ultimately trim 12,933 MW worth of demand off the grid, according to Eskom. That could save building coal-fired power stations the size of the planned Kusile, in Mpumalanga. When it comes on line in 2017, Kusile will be one of the largest of its kind in the world, and will have cost South Africans R142 billion to build.

SA's days of cheap electricity are over. Since the 2008 blackouts, Eskom's request was approved for a 25% annual increase until 2013 mainly to upgrade the supply-side of the grid. This amounts to a doubling of the cost of electricity in real terms in 2008 prices.

The country's cheap electricity has fostered a culture of squandering it through running an energy inefficient economy. And now the 2010 draft national electricity plan (the Integrated Resource Plan, or IRP 2010), currently being proposed by the Department of Energy (DoE), presents a great opportunity to redress this.

And yet the draft, in its current form, hardly mentions demand reduction and doesn't model energy efficiency. The plan calls for an unambitious 3,420 MW reduction in demand, despite the fact that, in the IRP's own words, this may only "scratch the surface" of the full demand reduction potential of 12,933 MW. Yet attempts by civil society and other stakeholders to get the DoE to give greater emphasis to energy efficiency have largely gone unheard.

The plan, as it stands, proposes that a number of mega power stations be built, even after admitting that it hasn't explored energy efficiency potential. And yet economy wide demand reduction could in all probability happen at a fraction of the cost of building more power stations. The IRP should at least explore energy efficiency measures fully before committing the country to carbon-intensive electricity infrastructure that the economy will be saddled with for the next half century.

Investment in demand reduction will result in significantly higher levels of local industrial and economic development, and the associated job creation, than investment in supply-side capacity. A large proportion of the expenditure on coal-fired or nuclear or gas-fired power stations will be spent on imported components that can't be manufactured locally. Recipients of this expenditure will be a few large engineering and equipment supply companies overseas. On the other hand, most demand reduction expenditure will be on locally manufactured

equipment and local labour, which will be distributed among many small enterprises throughout South Africa.

Reducing demand will improve energy efficient in buildings, including in low-cost housing, improved energy efficiency for appliances such as fridges, solar water heaters, lighting and a plethora of improvements in industrial and commercial processes. This doesn't just create employment country-wide, but provides healthier environments at lower overall cost to the economy and individuals.

Australia, for instance, has banned conventional incandescent light bulbs. In Mexico, a scheme pays consumers to swap old electrical appliances for new efficient ones resulting in a win-win-win-win-win: the total cost to the economy is lower than building new electricity supply capacity, electricity prices are lower, environmental damage associated with increased electricity consumption is avoided, economic development and local jobs are created in increased demand for locally manufactured energy efficient appliances and consumers have better appliances and lower electricity bills.

Many of these programmes have zero negative impact on the physical environment, and when they do have an impact it is negligible compared to the alternative option of using conventional (coal, gas, nuclear) power to achieve the same ends.

Operating Kusile will involve mining and burning more than 20 million tonnes of coal and putting 36 mega tonnes of carbon dioxide emissions into the atmosphere each year. Reducing demand could avoid those emissions, thus allowing South Africa to keep in step with the changing international mood around curbing climate change-related emissions. Successful countries the world over, including developing countries such as China and India, have placed demand reduction at the centre of their electricity planning and have reaped huge benefits as a result.

If demand reduction makes such obvious sense, why is it not a much bigger part of the IRP? One obvious clue is that the capital cost of meeting only part of the 9,513 MW shortfall, through constructing Kusile, would be more than R140 billion. That's good business for someone in the sector. Another clue is that over a 40 year lifespan, if Kusile is run at rated capacity, R168 billion worth of coal would be burned (that's 840 million tonnes of coal, calculated at a coal price of R200/tonne). Vested interests would be on the receiving end of this R308 billion bonanza.

Currently 90% of Eskom's electricity is generated from coal. Four companies supply 80% of this coal. Most of the electricity thus generated is supplied to 36 large industrial consumers such as Xstrata and BHP Billiton. Of the remainder, most is sold for re-distribution to the three major metropolitan electricity departments (Jhb, Cape Town and Durban) which derive a significant proportion of their revenue from electricity sales.

A report published by democracy watchdog Idasa says this about the core of the electricity system: "The South African electricity system is dominated by a core of a few major participants. By virtue of their position in this physical energy supply and consumption system, this core has developed significant financial, technical and organisational resources, through which it exerts significant influence on governance of the system."

Story continues…

This was first published in the *Cape Times* on 24 November 2010.

Part 3: Wordsmiths at work

Hard news

Excessive insulin is driving obesity, diabetes

by Mandi Smallhorne

Mail & Guardian, 21 Feb 2015

Insulin resistance is caused by the body adjusting to the presence of too much insulin over extended periods and is one of the causes of obesity. "We are eating way too much, and far too often," according to Dr Jason Fung, a nephrologist (kidney specialist) the University of Toronto affiliated Scarborough hospital. Fung has a special interest in weight management and diabetes.

"It is not the energy balance [too many kilojoules in, too few out] that is driving the complex of conditions known as diabesity [diabetes and obesity], but rather the excess of insulin that this promotes."

Speaking on the second day [Friday] of the Old Mutual Health Convention in Cape Town, Fung said that it is too much insulin – a hormone the body produces in response to eating carbohydrates – that packs on the kilograms and makes us fat.

Insulin resistance, according to Fung, is caused by the body adjusting to the presence of too much insulin over extended periods of time. "We used to eat two or three times a day, he said, with a fast of around 14 hours between supper and breakfast. This allowed the body a break from insulin," he said.

"But now we snack all day – on carbohydrates that drive insulin upwards – and are often advised to eat something before bedtime."

The way to treat the condition of excessive insulin, said Fung, is to remove from the diet the carbohydrates that trigger insulin – and to eat fewer times in each day, allowing the body a chance to recover.

He pointed out that Asian populations have eaten rice in quantity for many centuries without developing a diabesity epidemic; it is only as sugar and refined carbohydrates are added to the diet that they begin to have problems.

Fung is one of 15 international scientists, researchers and clinicians who have gathered at the Cape Town International Convention Centre from February 19 to 22 to present a number of far-ranging talks on both research and clinical experience of the low carbohydrate, high fat diet for managing non-communicable diseases driven by obesity, such as type two diabetes and cardiovascular disease.

Originally published in the *Mail & Guardian*: www.mg.co.za/article/2015-02-21-excessive-insulin-is-driving-obesity-diabetes.

What Does the Giraffe Say? Scientists Find the Answer

by Gwen Pearson

Wired, 17 September 2015

GWEN PEARSON SCIENCE 09.17.15 7:00 AM

WHAT DOES THE GIRAFFE SAY? SCIENTISTS FIND THE ANSWER

Cows moo, lions roar, and pigs oink. But for many years it's been assumed that, except for the occasional snort, giraffes spent most of their lives in a tight-lipped silence. New research from a group studying animal sounds at the University of Vienna suggests giraffes might not be so quiet after all: They spend their evenings humming.

For decades zookeepers reported occasional snorts as the only sounds their charges made. The conventional explanation was that the long necks of giraffes caused their taciturn nature. Giraffes do have a larynx (voice box), but perhaps they couldn't produce sufficient airflow through their 13-foot long (4 meter) trachea to vibrate their vocal folds and make noises.

The researchers suspected the reason no one heard giraffe communication was because the sound frequency was too low for humans to hear. Elephants and other large animals use an ultra-low frequency "rumble" for long-distance communication; why not giraffes?

Read the full article on *Wired*: www.wired.com/2015/09/giraffe-say-scientists-find-answer.

Media Release: Crocodile deaths continue in the Olifants River

by Raymond Travers, SANParks

October 2009

Kruger National Park (KNP) researchers and rangers call for more collaborative efforts to ensure that South African rivers are clear of pollution as more crocodile carcasses are discovered in the Olifants River.

"It is unlikely that management actions which are taken inside the KNP can solve this problem. One would need a much larger and overarching restoration program for the entire Olifants River system, which should focus on issues such as acid mine drainage, agricultural pesticides and fertiliser use, sewerage treatment and industrial and household sources of pollution," said the KNP's Head of Department: Scientific Services Mr Danie Pienaar.

So far this year, rangers and scientists have found 13 dead and many other sick crocodiles in the Olifants River Gorge near Olifants Rest Camp. Helicopter-borne surveys showed that there are a total of 385 crocodiles in the Olifants Gorge and lower Letaba River.

"Our research has shown that these crocodile mortalities are now a recurrent problem that is likely to occur every winter. If mortalities continue at this rate, there will be very few crocodiles in the lower Olifants and Letaba rivers by 2010," added Mr Pienaar.

During May 2008, crocodiles in the Olifants River gorge in the Kruger National Park started dying, with a mortality rate of 20 crocodiles per week reached during June and July. A total of 170 crocodile carcasses had been recorded by late November 2008. Post mortem examinations revealed yellow-orange coloured, hardened fat in the tails and abdomen – a condition known as pansteatitis.

CAPTION: So far this year, 13 dead and many more sick crocodiles have been found in the Olifants River Gorge. © SANParks

Researchers analysed water, sediments, fish and crocodile tissue samples for potential toxins and chemical compounds at laboratories, both locally and around the world, and although many heavy metals, agricultural pesticides, fertilizers, organic waste and persistent organic pollutants (POPs) were detected, none were found to be above levels where adverse effects are expected and were therefore not individually responsible for poisoning the crocodiles…

Issued by: Raymond Travers, Media Relations Practitioner, Kruger National Park. Contact: Tel: (013) 735 4116, cell: 082 908 2677 or email: raymondt@sanparks.org

First published online: www.sanparks.org/parks/kruger/news/2009/crocodile_deaths.php.

Spaghetti with roasted lemon & garlic sauce

by Robyn Maclarty

Koek!, 10 December 2012

You know those crazy mornings? The ones so chaotic and rushed, that instead of pausing for a second to pour a glass of water and swallow your magnesium supplement, you stash the pill in your bra and hope you won't forget about it?

Mornings like this are also the ones I'm most likely to be caught staring at someone's crotch on the train. I'll be innocently lost in a daydream, or wondering if I've got enough oregano for a dish that evening, and when I return to reality I realise my gaze has settled slap bang on the woman across from me's expansive bosom, or a man's pants seat.

Time sort of slows down as I realise what's happened, and without thinking I instinctively (and unwisely) look up to see whether anyone has noticed — and usually everyone has, including the gaze-ee. There's a moment when accusing eyes say to me, 'I know what you were doing, you perv, and you know that I know.'

In my mind, I'm shouting, 'No! It's not what it looks like! I was thinking about spaghetti!'

This is all communicated Kabuki-style, like in those old Western films where the camera pans right up close to the gunslinger's eyes.

Invariably I am defeated and misunderstood, and emerge from the train vowing never to let my mind — or eyes — wander again.

So I'm afraid you owe it to me to make this spaghetti with roasted lemon & garlic sauce, after all I've been through. Just this morning I came to after reliving each gloriously slurpy mouthful from the night before — with my eyes firmly glued to the crotch of the Colin Farrell lookalike next to me. I may have been drooling slightly.

My eyes rose up to meet his (cue rapid zoom-in and eyebrow flailing):

Him: I know what you were doing.

Me: I'm so sorry — I have a problem. It's not my fault!

Him: It's okay, I get that a lot. Besides, I was just staring at your boobs and wondering why you have three nipples.

Me: Uh... It's a magnesium supplement.

Him: …

Me: …

Him: Freak.

So you see, dear reader, you owe me.

First published on the blog *Koek!*: http://maclarty.blogspot.co.za/search?updated-min=2012-01-01T00:00:00-08:00&updated-max=2013-01-01T00:00:00-08:00&max-results=4.

Welfare of elephants in captivity comes under question

by Melissa Reitz

Africa Geographic, 17 September 2015

A NSPCA report has revealed that elephant rides are still widely available in South Africa, despite a growing international move away from the controversial practice.

A report by the NSPCA (National Council of SPCAs) on the welfare status of elephants in captivity, at 26 elephant back safari and sanctuary facilities nationwide, (14 of which offer elephant back riding) reveals that nearly all captive elephants suffer welfare deficiencies in one way or another. This highlights the fact that South Africa is lagging behind in a growing global trend against using captive elephants for entertainment.

The report, compiled by the NSPCA's Wildlife Protection Unit, has been submitted to all relevant government departments in South Africa as well as NGOs nationally and abroad and offers a scientific overview of the cruel realities that many captive elephants endure physically and emotionally.

The report also confirms the lack of conservation benefits of the captive elephant industry. The WWF (World Wide Fund for Nature) and IUCN (International Union for Conservation of Nature) do not consider captive breeding a significant contribution to elephant conservation due to low breeding and high mortality rates. Also noted in the report is the high number of human injury and fatality due to public interaction with captive elephants.

Read the full article on the *Africa Geographi* website: http://africageographic.com/blog/welfare-of-elephants-in-captivity-comes-under-question.

Welfare of elephants in captivity comes under question

Posted on 17 September, 2015 by Guest Blogger in Conservation, Wildlife — 0 Comments

Posted: September 17, 2015

Share 684 Like 1.8k Tweet 20 G+1 38 Pinterest 5 Email 2

Written by: Melissa Reitz for Conservation Action Trust

A NSPCA report has revealed that elephant rides are still widely available in South Africa, despite a growing international move away from the controversial practice.

Put an end to hunger

by Leonie Joubert, David Sanders, Andries du Toit, Julian May and Rina Swart
Mail & Guardian, 3 to 9 July 2015

Climate change will undermine agricultural yields and rural development, but to focus on this as the chief threat to national food security is misleading ("A plan for food security", Letters).

If we don't tackle the bigger problems of the food system – from the dominance of big business to the exclusion of small operators, the tsunami of unhealthy, cheap foods, weak legislation and regulation, limited access to healthy food and so forth – we won't ensure that everyone has access to enough safe, nutritious food to prevent hunger, malnutrition and obesity.

"Food security exists when all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life," wrote the committee on world food security.

Yet the statistics are worrying: the 2012 national health survey shows that 26% of South Africans commonly experience hunger.

Nationally, stunting from chronic undernutrition is at 26%, with extensive micronutrient (vitamin and mineral) deficiencies in all provinces. Rates of overweight and obesity are simultaneously escalating dramatically: more than 50% of women and 30% of men aged between 45 and 54 are overweight or obese, which is linked with chronic, debilitating and expensive diseases such as diabetes, the prevalence of which has doubled in the Western Cape in the past two decades.

Chronic undernutrition and obesity coexist in the same communities and even the same households, mostly as a result of dependence on a cheap, high calorie, low nutrient (low protein and micronutrient) diet, present in processed, packaged and cheap "fast" foods.

More than just agricultural intervention, we need regulation of actors in the food value chain, as well as economic policies (such as subsidies and taxes) to make unhealthy foods more expensive and healthy foods cheaper…

By Leonie Joubert, emeritus professor David Sanders and professors Andries du Toit, Julian May and Rina Swart, University of the Western Cape.

Read the full article on the Mail & Guardian website: http://mg.co.za/article/2015-07-03-letters-to-the-editor-july-3-to-9-2015.

Op ed ('opposite the editorial') - opinion writing

SA should pay more attention to green growth

by Prof Anthony Black and Leonie Joubert

Business Day, 9 June 2014

INVESTING in efficient public transport and densifying the city will not only help South Africa meet its international carbon emissions reduction targets, but will also address poverty by boosting employment and reducing the costly burden of commuting for workers. This is the kind of win-win solution policy makers need to aim for if they wish to steer South Africa towards a greener economy without compromising development goals.

Earlier this year, the Energy Research Centre (ERC) at the University of Cape Town brought together more than 100 professionals from the global south to a "development and mitigation" forum. One driving concern for the gathering was how climate change "mitigation" is often treated as a separate issue from development. Yet, researchers argued, it is this very "silo" mentality that is hampering our ability to respond appropriately to the twin challenges of transforming to a low-carbon economy at the same time as tackling poverty through appropriate development interventions.

Returning to the transport sector as a way of demonstrating how a cross-disciplinary approach is necessary, take the example of the electric car. If the government invested its emissions-reduction budget on subsidising the roll-out of electric cars it would in effect be a subsidy for the wealthy, as vehicles of this nature are bought mostly by high-income users.

But investing in good public transport and making cities more compact would reduce vehicle emissions and help growth by reducing traffic congestion. It would also address the challenges faced by workers who have to commute long distances. The burden of the apartheid-era design of our cities is that working-class communities live far from hubs of employment. Finding work and commuting there is both difficult and costly. This constitutes a tax on employment and on the poor.

Getting to a win-win solution demands that policy makers step outside of the silo approach that treats emissions reduction and poverty reduction as separate issues…

Black is professor of economics and senior research fellow with the University of Cape Town's Environmental Policy Research Unit. Joubert is a freelance science writer.

Read the full article on the *Business Day website:* www.bdlive.co.za/opinion/2014/06/09/sa-should-pay-more-attention-to-green-growth.

Opinion & Analysis

SA should pay more attention to green growth

BY ANTHONY BLACK AND LEONIE JOUBERT, JUNE 09 2014, 06:49

Tweet 27 Share G+1 3 Kindle reddit this!

Related articles

- Growing green skills and jobs in South Africa
- Hustle to green is on in South Africa's cities

Picture: THINKSTOCK

INVESTING in efficient public transport and densifying the city will not only help South Africa meet its international carbon emissions reduction targets, but will also address poverty by boosting employment and reducing the costly

After the sky fell

by Brady Dennis

Tampa Bay Times, 28 January

The few drivers on this dark, lonely stretch of the Suncoast Parkway in Pasco County pull up to the toll booth, hand their dollars to Lloyd Blair and then speed away. None of them knows why the old man sits here, night after night, working the graveyard shift.

Well, here's why:

Because years ago, on a freezing winter night at a party in Queens, N.Y., he met a woman named Millie.

Because he fell in love with her brown hair and wide eyes and 100-watt smile.

Because they got married, moved to Staten Island, had a son and worked for decades in Manhattan; she as an accountant, he as a banker.

Because it had been their dream to retire to Florida, and so they saved all their lives to make it possible.

Because, just as they began to talk of leaving New York and heading south, she was diagnosed with breast cancer, and they spent their time and money traveling to New Jersey, San Diego and Mexico in search of a cure.

Because, in the end, they came to Florida anyway.

Because they finally bought a house in Spring Hill, although she was too weak that day to get out of the car.

Because she died nine days later on Jan. 5, 2002, a day "the whole sky fell," he says.

Because, after she was gone, he found himself alone and $100,000 in debt.

And so he took a job collecting tolls. The drivers who pass by see a smiling 71-year-old man with blue eyes and a gray mustache who tells each of them, "Have a great night!"

They don't know the rest of Lloyd Blair's story, or that he keeps Millie's picture in his shirt pocket, just under his name tag, just over his heart.

Memories of a human heart

by Leonie Joubert

Mail & Guardian, 3 July 2008

It's an ordinary page, from an ordinary diary. "Dates that matter", printed in the top right corner. Important dates for January in an unnamed year. Dates that never needed filling in. There's also space for notes, but the lines are blank. The owner of this diary didn't care for the prescriptions of its publisher. Her hand, probably inspired by the same wistful romance in her favourite Barbara Cartland novels, gave the page over to a ballgown, scrawled in a scarlet pencil.

Square neck, broad straps and deep pockets angled over the hips. Black trim here and there. Eleven neatly spaced buttons down the front. An exaggerated clinch in the waist.

Denise Darvall was a regular 20-something when she sketched that dress, an everyday bank employee, a woman hoping for love and a chance to wear a ballgown.

Until a drunk driver smashed into her and her mother, Myrtle, while they were crossing Main Road, Salt River, on December 2 1967. She was flung into a stationary car with such force that her skull buckled. She was brain dead by the time she arrived at Groote Schuur Hospital.

This is a snapshot of the woman who became the unintended heroine of South Africa's most remarkable medical drama – the world's first successful human heart transplant performed by Professor Chris Barnard and now remembered in the Heart of Cape Town Museum in that same hospital.

The drama of the all-night surgery, following the accident, has been recreated with chilling accuracy. In Theatre B2, the very same donor theatre, a scrubbed-up medical team huddles over the model of Denise as they chase the clock. Two doors down, in Theatre A, lies a recreation of the terminally ill Louis Washkansky, anaesthetised and ready to receive a new heart.

Museum owner and curator Hennie Joubert spent six years planning and compiling the contents of the museum, which opened its doors last December on the 40th anniversary of the surgery.

It's all there: inside the animal house where transplants were first perfected on dogs, the story of Barnard's assistant Hamilton Naki, medical records or photos of the first 100 successful transplant recipients, press shots of the world-famous surgeon meeting the Pope, Sophia Loren, Princess Diana, the awards, letters from kids who loved him, colleagues who admired him and detractors who were revolted by the "ghoulishness" of organ transplants.

Joubert's obsessive eye for detail went as far as to bring in members of the original medical team to arrange the surgical instruments accurately in the recreated scene, just as they would have done on that night.

What makes this museum so vivid is that the heart surgeon is still alive in the South African memory. But he's not a man who has been remembered

Photo courtesy Heart of Cape Town Museum © www.heartofcapetown.co.za

adequately by his country, argues Joubert, whose father Erhardt studied with Barnard and together they ran a small practice in Ceres before Barnard moved to Groote Schuur and on to bigger things.

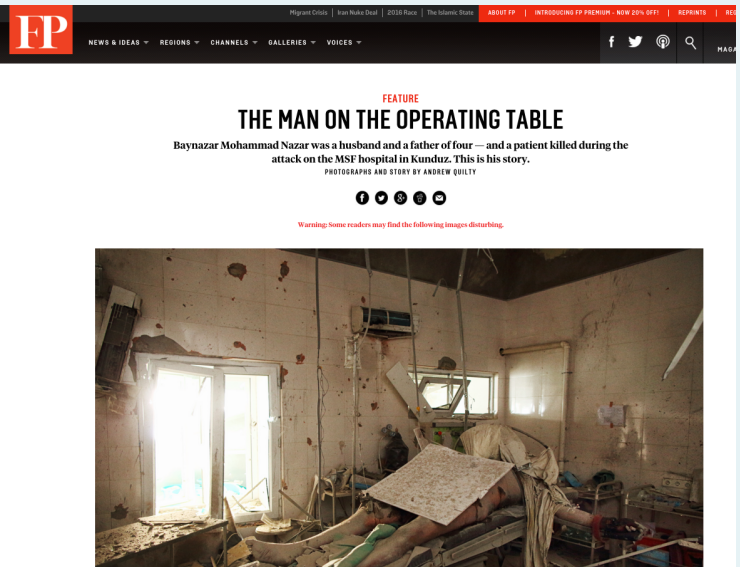
The museum - small, intimate and in the very spot where it all took place - remembers the man, the remarkable history of heart transplant surgery and the woman who lost hers so it could all happen.

It's fitting that Denise should get a room of her own, just metres from the very operating theatre where her heart was lifted from her chest just hours after the accident. Two beds, one doll. Her reading glasses resting on an open romance novel. A record collection: Joan Sutherland, Love Duets by Joan Hammond and Charles Craig. Her ballgown sketches, now framed, on one wall.

A postcard, post-marked 1960-something: "Dear Mom, This is just to tell you that we are leaving Jo'burg on Sunday by the 3.15pm plane … I will phone you Saturday evening … Love to everybody. See you soon. Denny. xxx."

After her death, at exactly 5.58am on December 3, Denise Darvall's heart started beating again. Only this time it was in someone else's chest. And it did so for another 18 days until recipient Louis Washkansky died of pneumonia. So much drama in such a small space in this little museum on Hospital Bend.

Originally published in the *Mail & Guardian*: http://mg.co.za/article/2008-07-03-memories-of-a-human-heart



Baynazar Mohammad Nazar was a husband and a father of four — and a patient killed during the attack on the MSF hospital in Kunduz. This is his story.

KUNDUZ, AFGHANISTAN — IN THE FIRST OPERATING ROOM, the surgical bed was empty except for a thin layer of concrete dust. The second room had been harder hit. A man's body, arms and legs outstretched, lay supine on the operating table with a cannula inserted in his left forearm. Blotches of rust-colored antiseptic stained his torso; there was a steel bracket fixed to his right thigh. A surgical curtain had collapsed across his chest and shoulders above where a ceiling panel lay across his abdomen. On the cushioned head support, the patient's bearded jaw was all that remained of his head — the rest appeared to have been sheared off by shrapnel or a large ammunition round.

In the corridor outside the operating rooms, a slew of broken ceiling panels lay on the floor covered in dust

The man on the operating table

by Andrew Quilty

Foreign Policy, 3 July 2008

and debris; a whiteboard hung askew on the wall. Even in the middle of the afternoon, apart from the occasional pop of a Kalashnikov firing in the distance, this part of the hospital was silent and dark.

The main part of the Médecins Sans Frontières Kunduz Trauma Center had fared far worse. Little remained after the deadly strikes carried out by a U.S. AC-130 gunship over the course of an hour. In the weeks after the attack, investigators determined that at least 30 staff and patients had died on Oct. 3. Initially, Afghan commandos claimed they had requested the airstrike after coming under fire from Taliban fighters in the hospital compound. Afghan government officials echoed this account, while a dozen eyewitnesses I spoke to refuted it…

Read the full article on *Foreign Policy*: http://foreignpolicy.com/2015/12/03/the-man-on-the-operating-table-msf-hospital-kunduz-afghanistan-us-airstrike/

Part 4: Further reading

A few more useful guides and examples

Desk guide for Covering Science from the Science Media Centre, New Zealand. Available at: http://issuu.com/aimeew/docs/desktopguide.

Science Writing Prize 2014: The shortlist The 20 best entries in this year's competition, from the Wellcome Trust Science Writing Prize 2014, in association with the Guardian and the Observer. Available at: http://www.wellcome.ac.uk/stellent/groups/corporatesite/@msh_grants/documents/web_document/wtp058179.pdf.

Science Writing Tips, from The Wellcome Trust. Available at: http://blog.wellcome.ac.uk/science-writing-tips/.

Image by Eric Miller, *The Hungry Season*

The author and photographers

Leonie Joubert

Leonie is a science writer whose storytelling delves into the complex world of shifting climates, dwindling 'brown' energy, environmental changes, and hunger amongst South Africa's poor city dwellers. Her work tries to give voice to a silenced environment, and the social injustices of a society where the divide between rich and poor has never been greater.

Leonie's books include *Scorched*, *Boiling Point*, *Invaded*, and *The Hungry Season*. She also contributed to Max du Preez' *Opinion Pieces by South African Thought Leaders*.

She was the 2007 Ruth First Fellow, was listed in the *Mail & Guardian*'s 200 Young South Africans You Must Take To Lunch (2008), and was named the 2009 SAB Environmental Journalist of the Year (print/internet category). www.leoniejoubert.co.za

Sam Reinders

Sam regards photojournalism as a privilege. It has allowed her to chase penguins, fly on Air Force One, swim with sharks and meet a collection of interesting people – from business men to homeless men, and from grannies at a bake-sale to a triple murderer behind bars. www.samreinders.com

Sydelle Willow Smith

Sydelle describes herself as a visual storyteller. She started working in a dark room at the age of 16 and has since built up a significant body of work although her main work focuses on people based environmental bodies of work. http://www.sydellewillowsmith.com

Michael Groenewald

Michael is a Cape Town-based photographer who has an eye for the inspirational which he sees in people, landscapes, seascapes or urban environments.

He has a rare talent for capturing the beauty and athleticism of ballet dancers. www.1imaged.com

Eric Miller

Eric is a Cape Town based-photographer who worked with Leonie on *The Hungry Season*.