

South African Association of Health Educationists Distinguished Educator Award Address

## *Le bon Dieu est dans le détail – reflections on being a beaver*

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I would like to thank the SAAHE executive very much for the honour of this award – I was not expecting it and I am not sure that I deserve it. It means a great deal to me.

This morning, I wish to share a concept that all of us have used in the past, still use, and will always use in our educational work. It is more than a concept (or it should be – in fact, when it remains a concept and does not enter the realm of practice, it changes its nature, and becomes the opposite of what it should be). It is a concept that is common to all human endeavour and not only to education.

Let me start with the title of my talk to clarify this theme. I have been thinking for the past few months about today and about what I could usefully say to you, my esteemed colleagues in health science education. You know how it is – the exigencies of one's work make certain ideas and themes rise and fall in importance and significance from month to month and year to year. And the idea that has been occupying my mind for some time now can be summed up in the words of Gustave Flaubert, the great French novelist of the 19th century: *Le bon Dieu est dans le détail*. – 'The good God is in the detail'. As far as I have been able to find out, Flaubert is the person who coined that exact phrase, although it expresses what many have experienced before and since. It means, or I think Flaubert meant, that whatever one does should be done thoroughly – details are important.

Many of us know and use the phrase in a significantly altered or opposite form: 'The devil is in the detail'. This contrary saying encapsulates very neatly the situation to which I have just referred: when one is confronted with a situation or process that just will not work out and decides to 'leave it like that', not to search for that detail that is literally 'bedevilling' the whole – well then, the neglect will result in inefficiency, unhappiness, disillusionment, even chaos. We shall come back to this neglect and its consequences.

What I propose is to examine how this idea has been put into practice – in the fields of health and education, and more widely (including my own experience) – and then draw lessons from these experiences about the nature of 'detail', what happens

when we neglect it, and the great need for attending to it in our work as educators of health practitioners. We start with the man who seems to have coined the phrase, Gustave Flaubert. His seminal work *Madame Bovary* is widely considered to be one of the most influential novels ever written. This is not because the characters are particularly nice people – far from it – but because of the style in which he wrote, which contains two particular elements for us to note. Firstly, his obsession with realism, with portraying the reality of his subject as objectively and scrupulously as possible. Secondly (and linked to the first), his attention to detail in his work. Flaubert himself explained how he went over each paragraph, each phrase, each word, repeatedly to get it 'just right' – looking for '*le mot juste*', 'exactly the right word' (Goodman, 2009). **The point here is that a truly great result may need scrupulous and repeated attention to small details.**

Another person who was fond of using the phrase 'God is in the detail' in his work and as a teacher was the well-known German-American architect of the 20th century, Ludwig Mies van der Rohe. He was one of the leading exponents of the greatly influential 'Bauhaus' school of architecture, first developed in Germany in the 1920s. In the context of our investigation of 'detail', it is worth examining a few of the principles of the Bauhaus school (Barr, 1938).

Firstly: Practitioners can no longer take refuge in the past but need to function in the modern world as vital participants, equipped with technical, social, economic, even artistic and spiritual skills and insights. They need to disregard traditional distinctions and separations between related disciplines and bring them together in a new and better synthesis. **The point here is that the scope of detail needs to be wide, including an openness to new ideas and the ideas of others.**

Secondly: Manual experience of materials is essential, both in free experimentation and then, critically, in workshop practice. In the words of a Bauhaus exponent: 'It is harder to design a first-rate chair than to paint a second-rate painting – and much more useful'. **The point here is that there is**

**no detail that is too low to deserve attention, that is beneath the dignity of the creator.**

Thirdly: Rational design in terms of techniques and materials goes beyond utility – it should also have an aesthetic aim. **The point here is that attention to detail is not to be seen as dull and boring but as a fulfilling creative act, producing a result greater, and more aesthetically pleasing, than the sum of its detailed parts.**

Brave words! How did Mies van der Rohe's Bauhaus theories work out in practice? Let us examine two very different buildings he designed (Schulze, 1985). The Seagram building in New York was designed to be the headquarters of a large company, and was completed in 1958. The work required very careful attention to major details such as the properties of building materials and physical stresses – but also to minor ones such as decorations and an interior garden. I leave it to you to decide: Did it live up to the Bauhaus principle of a design that goes beyond utility into beauty? **The point here is that such a major undertaking requiring such detailed planning had a marked aesthetic quality on completion.**



The Seagram Building.



*The Farnsworth house.*

The second Mies van der Rohe building is very different. The Farnsworth house was designed as a weekend breakaway cottage for a doctor in rural Illinois. It was completed in 1951. Again, its seeming simplicity masks the technical complexity of building it with the materials available at the time. It stands on land subject to occasional flooding (hence the stilts) – yet the architect has turned that purely operational requirement into a feature that makes the building seem to float within the space of nature where it is situated. ‘We should attempt to bring nature, houses, and the human being to a higher unity’, he said. Did he succeed? **The point here is that even in a seemingly small project (compared with the Seagram), careful attention to detail, approached from different perspectives, produced something almost magical.**

Now we go to a completely different example. I have been fortunate in that my work takes me to interesting places and projects through the years, and I would like to select two of these, again with the goal of gaining additional insight into the nature and place of ‘detail’ in our work. In the city of Hyderabad in the state of Andhra Pradesh in India, is the remarkable Salar Jung Museum, housing the art collection of the prime ministers (the nawabs) of the princely rulers (the nizams) of Hyderabad. Through the generations, the Jung family collected, among other treasures, an amazing assembly of so-called ‘miniatures’. These minute paintings are so detailed that one wonders how the artist could have executed them; here is an example (although not from Salar Jung).

There is no end to the delicacy of detail: The hair and jewels of the Empress Nurjehan, her hands and ears, the tiny cup she holds, the material of her sleeves and turban. This attention to detail did not happen overnight. The miniatures were produced in studios supervised by renowned artists who trained and supervised new generations of painters of miniatures. **The point here is that the ability to attend to detail is not automatically achieved – it may need training and supervision, and working together as a team.**

Another example: I count it as one of the great blessings of my life that I was able over a period of eight years to work in the two World Health Organization onchocerciasis control projects in Africa. In the course of these projects, I was able to do work in nine different countries, and also to attend regular project meetings at the WHO headquarters in Geneva. In front of the main building in Geneva is a statue of a small boy guiding a blind man with a stick. It is actually a monument to a very nasty disease that has been successfully contained, thanks to the efforts of many countries and organisations working together. It is for me one of the supreme examples of triumph following attention to detail. Let me explain.

Onchocerciasis is a parasitic disease. The adult female worm is 50 cm long and lives in the subcutaneous tissues, causing unsightly nodules that are



*Empress Nurjehan.*

otherwise harmless. The problem lies in the millions of larvae or microfilariae produced by the adult worms. The larvae migrate to the skin in order to be picked up by the bite of a blackfly, which then transmits the infection to other humans. The larvae cause a widespread dermatitis with intractable itching; they also migrate to the eyes where they cause a chronic inflammatory process leading to irreversible blindness – all in all, a horrible disease. After much research in the 1960s and early 1970s, the first control programme started in 1974 (the second one is still continuing). Two strategies were developed to deal with the scourge. The first was to eliminate the vector, the blackfly. This is where the attention to detail starts. Blackflies breed in fast-flowing, well oxygenated water. This meant that all breeding sites in thousands of kilometres of rivers in eleven West African countries had to be treated with insecticide every week. These are rivers that also provide populations with water and fish, so the dose of insecticide had to be carefully titrated – enough to kill the larvae but not too much to harm the ecosystems. And of course the river flows vary with the seasons, so the dilution effect varies from month to month. So solar-powered flow monitoring stations were installed at regular intervals in all the main rivers, which sent information via satellite to a Dutch university which then informed the helicopter companies doing the spraying weekly how to adjust their dosages. And this is only one of the many complexities about the larviciding that had to be dealt with. The blackfly developed resistance to the insecticide; epidemiological and entomological surveillance had to be carried out constantly; and civil wars intervened in Sierra Leone and Côte d’Ivoire. Whenever any problems were uncovered, they were dealt with by immediate operational research with detailed action following as indicated by the research results (Molyneux and Davies, 1997).

The second strategy was the yearly mass distribution to approximately 50 million people of the drug ivermectin, which kills the microfilariae and



*The onchocerciasis statue at the WHO, Geneva.*

so halts the progression of the disease in the individual, and eventually transmission of the disease as well. Onchocerciasis is a disease of the 'end of the road', of small villages far from the main centres. Health services in these areas are dysfunctional and communications are rudimentary, so tens of thousands of village volunteers had to be trained to collect the drug, distribute it, and report side-effects and coverage. The complexities of this process are mind-boggling, yet they were systematically researched and dealt with (my research dealt with motivation of the village volunteers and how to maintain it). **The point here is that attention to detail is an intense, ongoing process; that it requires intellectual rigour and a large amount of hard work; and that it needs to be based on good information.**

A final, more medical example: pain and its management. We know that this is an area in which some doctors historically perform very badly – a recent study from the United States revealed that 25 - 30% of patients with cancer received treatment for their pain at all (Fisch *et al.*, 2012). There is no getting away from the complexity of pain, from all the detail surrounding how it is generated, and experienced, and therefore managed. In her work in Hospice, Cecily Saunders clearly illustrated that we need to understand and work with the 4 elements of 'total pain': physical, social, emotional and spiritual. Models of pain management include the World Health Organization's approach to the use of analgesics in relieving cancer pain (WHO, 1996). Is it surprising that the fifth and final phrase in the WHO model is 'Attention to detail'? **The point here is that attention to detail makes a tremendous difference to really important issues.**

I learned much about 'detail' from these examples; I hope you have too. Having embarked on this train of thought, I recalled a 2007 article in *Medical Teacher* by Ronald Harden. I am sure many of you are familiar with it: 'Outcome-based education – the ostrich, the peacock and the

beaver' (Harden, 2007). So now you know where the second part of my title comes from. In this article, Harden uses the metaphor in the title to depict three reactions to the introduction of outcome-based education – but one can really apply it to any major innovation in health science education. Ostriches with their heads in the sand (which apparently they never do) ignore the innovation, and we hear the mantra 'If it's not broken, why fix it?' Peacocks proudly display their lists of outcomes and other plans, but that's as far as it goes – the programme carries on much as before. Finally there are the beavers, hard-working little chaps who beaver away at building their programmes, log by log and stick by stick, until there is an expanse of open water which provides teachers and students with new space to grow, and new food for thought and development.

Harden's metaphor is clearly intimately linked to the issue of 'detail' – peacocks are what one could call 'detail lite' and beavers 'detail heavy or rich'; the ostrich would get the rating of 'zero' (in which some soft drinks pride themselves). I am sure that each of us can with a little reflection remember examples in our own practice where 'God was in the detail', where the detail was properly attended to, and conversely where 'The devil was in the detail', where it was not. Here are a few examples from my own experience.

Community-based education is central to much of what we are trying to achieve in the mindset of our graduates, in all programmes. They need to see that there is not only a place for them in district health services, but also that they can make a difference there, that elusive 'difference' to which so many of them refer when they come for their pre-admission interviews. But it is not enough to place the students in community settings, where they may hang around achieving very little and become progressively more bored and frustrated – immunised, in fact, against ever working in such settings. So what are the details that need attention here? I spent eight years in Pretoria, slowly learning the details involved in creating a good community-based learning experience. Here are some of them: transport (getting there safely and on time, good maps or exact GPS coordinates); accommodation (clean, reasonably furnished, good food, a place to study, good connectivity); explicit, important and realistic objectives and ample opportunities to achieve these; welcoming and supporting staff, a place of one's own to work, equipment to work with; student contribution to service delivery (so the local staff are happy) within the limits of their competence (so patients are safe) while also learning new skills (so students know they are learning and growing); the regular and encouraging presence of their teachers; being accompanied by a streetwise local when doing home visits; immediate follow-up of problems and complaints; and some opportunity for fun and recreation. If all of this is in place, and known to be in place, it leads to a sense of excitement, achievement, enjoyment – building student morale in a situation where many students expected to find nothing that they would enjoy.

Another example: For many years I've been teaching a module in a Master's course at the London School of Hygiene and Tropical Medicine. The class comprises experienced ophthalmologists, optometrists and ophthalmic nurses from developing countries, and they normally arrive on the first day of the 'Health Promotion, Education and Advocacy' module, clearly not hoping for much. But at the end of the week, the students' reactions show clearly that the week has worked; in preparing for today, I've been trying to work out why. Again it is 'detail' that has been operating here. Every year, the module is reviewed and enriched. Its structure invites participation and draws on the many years of experience represented in the students. The learning is carefully planned not only to be active but also to be fun, with debates and quizzes. Students are constantly encouraged to apply what they are learning to their own situations. Students battling with English receive special attention

after class. And when I meet ex-students on my forays into eye care in Africa and India, they always remember the module and the fact that it was a good learning experience – even 15 years later.

There it is again – the richer the detail, the better the outcome. So at this point I'd like to formally introduce the concept of a continuum of 'richness of detail' as an important tool for health science educationalists – a continuum going from 'zero' to 'lite' to 'rich', with the implication that the closer one gets to 'rich', the better the result will be. I'm sure that many of you have noticed that this new principle is also related to one of the formulations of Murphy's Law: 'If something can go wrong, it will.' which means I also have to give an example of what happens in 'detail lite' situations, in which case 'the devil is in the detail'.

At the moment, our unit is involved in a project to improve the quality of training of eye healthcare professionals (anything from ophthalmologists to mid-level ophthalmic nurses) in four countries in Africa. On the one hand, the praises of what some of our colleagues there can achieve with so few resources can never be adequately sung. However, there are other cases (happily few) where lack of attention to detail on many levels has a paralysing effect: untidy classrooms, endless one-directional chalk-and-talk, absentee teachers, little clinical exposure in units teeming with patients, irregular assessments, few employment opportunities for graduates. In these cases, it is not primarily a question of resources but of detail – so much could be improved by more attention to **detail**.

It is time now to turn to a couple of common educational concepts that I believe are intimately related to the 'detail principle'. Let us begin with **student-centredness**. I am sure that all of us have been familiar with this concept since Harden, Sowden and Dunn (1984) introduced us to the SPICES model. This is what Harden and his fellow authors say: 'In a student-centred approach to the curriculum ... the emphasis is on the students and on what and how they learn. In contrast, in a teacher-centred approach, the emphasis is on the teachers and on what they teach.' Our task is to construct learning opportunities in such a way that they best facilitate students' learning – not treating students as spoilt children whose every whim has to be satisfied (in fact, the large majority of sensible students don't want that). In this context, I have found that there is a strong relationship between student complaints and missing detail: when students complain, they draw our attention to missing details – the complaints are early warning signs, if you like, that there is detail which has not been attended to.

This leads us on to the closely related concept of **student disillusionment**. This phenomenon has been discussed in the literature for many years – for nursing, medical and other students (Kopelman, 1983; Last and Fulbrook, 2003). A few common threads are reported in this phenomenon. Students enter programmes with an idealised view of the profession they are about to enter but are progressively disillusioned by the examples of their teachers, and especially by the nature of the practical situation – so-called 'reality shock'. Frustration, disillusionment and burnout ensue, and the result is a mixture of what one study calls 'sustained idealists, compromised idealists and crushed idealists' (Maben, Latter and Clark, 2007). I have experienced this often – the poor quality of student experiences, so contrary to what they were expecting, that at first irritates them and makes them complain: incomprehensible MCQs, poor marking, negative experiences in the wards, poor lecturing, and teachers who humiliate and belittle patients and students. Then when the details remain unaltered, students subside into a kind of disgruntled resignation – 'We know now that this is all we're going to get'. The bloom is gone, they feel themselves surrounded by mediocrity, they just soldier on sullenly. The devil is in the detail here – the degree of disillusionment is directly proportional to the degree of neglect of detail. But when one experiences the converse, it is equally striking: When attention to detail fixes a longstanding problem, there may even be a kind of Lazarus experience in students individually

and in groups; I recall a medical student who had failed the previous year but later revelled in positive changes in the curriculum which left her 'enthralled and enthused', she said. 'God was in the detail' again.

Then the **learning environment**. Pace (1960) remarked that we can know everything about a medical school, its physical attributes, human resources and official policies – yet know nothing about what it is really like. Genn (2001) has defined the educational climate as the perceived environment, representing the real world of medical school as the student experiences it. Knowles (of Adult Education fame) pointed to the evidence that climate makes a unique and notable contribution to student success (Knowles, 1970). That environment is important we all agree, and we rejoice in the good news from Marshall and others that it can be measured and changed in spite of its many elements (Marshall, 1978). But one thing is certain: its very complexity implies that producing a good learning environment is directly proportional to the amount of detail that we attend to in creating it. It is not rocket science, it is not hard to understand; but it needs a 'beaver' approach.

This brings me back to Harden and outcomes. The Health Professions Council of South Africa has produced an outcomes document for medical students, based on the CanMEDS document (Frank ed., 2005). Last year, I was involved in a process of evaluating to what extent the main role and six component roles of a graduate were really being attended to in our programme. The result was not bad, but there was clearly a lot left to do – not so much in the routine outcomes related to clinical practice that we are used to, **but in the more complex but no less important ones** such as:

- develop a common understanding on issues, problems and plans with patients, families, colleagues and other professionals to develop a shared plan of care ('communicator' role)
- participate effectively and appropriately in an interprofessional healthcare team in a variety of situations ('collaborator' role)
- provide effective healthcare to geographically defined communities ('manager' role)
- respond to the health needs of the communities that they serve ('health advocate' role)
- maintain and enhance professional activities through ongoing learning, both as doctors and as responsible citizens ('scholar' role)
- demonstrate a commitment to their patients, profession and society through ethical practice ('professional' role).

These are difficult outcomes to produce and, if they are to become a reality, they need to be implemented – in detail. In the same vein, we also know now that we need to attend to current national and international imperatives in health science education, e.g. those in the recent *Lancet* 'Transformative education' article (Frenk *et al.*, 2010). Moving our current programmes along to embrace outcomes related to leadership, social accountability and interdisciplinary partnership meaningfully will require attention to details worthy of a whole family of 'beavers'.

At this point, you may say, 'Detail is so boring!' Maybe – but it depends on how you approach it; it is also an opportunity for creative thinking (like Mies van der Rohe's buildings). Attention to detail can move from a bored 'Oh no, not that again.' to an opportunity for innovation and experimentation. An example: Faithful to the principle of early clinical exposure, we have for many years arranged a weekly 'health practice day' for third-year medical students, where they work in hospitals in the mornings and go to skills laboratories in the afternoon. To arrange satisfactory individual learning experiences for 300 students each morning has never worked

Department	Group no.	Grade		Comments
		Shadowing	Tutorial	
Orthop.	10	Orthop.	Paeds.	Shadowing: Students learnt a lot, but would potentially benefit more during the Musculoskeletal block. Tutorial: Students learnt a lot, good tutorial; unfortunately, the Paeds ward had no endocrine patients.
Orthop.	11	Orthop.	Orthop.	Shadowing: Would be more useful during the Musculoskeletal block. Tutorial: Ten students to 1 patient meant that not all students could participate or learn effectively.
Medicine	14	Pulmonol.	Orthop.	Shadowing: No shadowing at all; however, students do their own clerking and examination of patients. Tutorial: Doctor was very interesting and encouraged full participation.

The 'dashboard' monitoring tool.



properly, despite years of effort (including a Master's dissertation investigating the issues). But this year we had the idea of introducing the 'dashboard' monitoring tool – using student feedback to grade every activity every day – and at last there is progress.

So what did I learn from this journey? Firstly that, while occasionally there may be a Great Vision for us to introduce to the educational

world, the details are always there, awaiting our attention. Secondly, there is a continuum of 'richness of educational detail' intimately related to our educational climate, to student centredness, to student morale, to the overall quality of our educational endeavour. Then, finally, about 'detail' itself:

- no detail is too low or insignificant to deserve attention

- attention to detail can be a fulfilling creative act
- detail produces a result greater, more aesthetically pleasing, than the sum of its detailed parts
- detailed attention given to small projects can have a magical effect
- the ability to attend to detail may need training and supervision
- detail requires teamwork and openness to new ideas and the ideas of others
- attention to detail is an intense and ongoing process requiring hard work
- detail requires intellectual rigour and needs to be based on good information
- a truly great result needs scrupulous and repeated attention to a broad range of details
- attention to detail makes a tremendous difference to really important issues.

In closing, two thoughts. The first is my apologia which comes at the end instead of the beginning of this talk. In thinking through 'detail' as I've done above, I of course became acutely aware of the times when I had been the one to neglect the details – where 'the devil was in the detail' because of me. So you may well quote to me what Mark Twain is reputed to have said, 'To be good is noble; but to show others how to be good is nobler – and no trouble.'

Then I have left to the last the word 'detail' itself. Where does it come from? It is from an old French word '*détailler*', to 'cut up'. This is what tailors used to do (and still do, I suppose): cut out the smaller pieces of cloth that they need to sew together to make a splendid whole, like this quilt. Why is it beautiful and useful? It's the little pieces, the detail in it, that make it so.

So; detail: attend to it well. Do it with passion; do it with innovation; do it elegantly; do it with humility; do it as a team; do it as you transform your programmes. Remember the 'richness of detail continuum'. Remember the beaver. Remember: *Le bon Dieu est dans le détail*.

#### References

1. Barr, A.H. in Bayer, H., Gropius, W. and Gropius, I. eds. (1938), *Bauhaus 1919-1928*, New York: Museum of Modern Art.
2. Goodman, R. (2009), 'The hermit of Croisset: Flaubert's fiercely enduring perfectionism', *The Writer's Chronicle*, September, p.1.
3. Fisch, M.J., Lee, J.W., Weiss, M., et al. (2012), 'Prospective, observational study of pain and analgesic prescribing in medical oncology outpatients with breast, colorectal, lung, or prostate cancer', *Journal of Clinical Oncology*, 30(16), pp.1980-1988.
4. Frank J.R. (ed.) (2005), *The CanMEDS 2005 physician competency framework*, Ottawa: The Royal College of Physicians and Surgeons of Canada.
5. Frenk, J., Chen, L., Bhutta, Z.A., et al. (2010), 'Health professionals for a new century: transforming education to strengthen health systems in an interdependent world', *The Lancet*, 376(9756), pp.1923-1958.
6. Genn J.M. (2001), 'AMEE Medical Education Guide No. 23 (Part 1): Curriculum, environment, climate, quality and change in medical education-a unifying perspective', *Medical Teacher*, 23(4), pp.337-344.
7. Harden, R.M. (2007), 'Outcome-based education – the ostrich, the peacock and the beaver', *Medical Teacher*, 29(7), pp.666-671.

# Plenary lecture

8. Harden, R.M., Sowden, S. and Dunn, W.R. (1984), 'Educational strategies in curriculum development: the SPICES model', *Medical Education*, 18(4), pp.284-297.
9. Knowles, M.S. (1970), *The modern practice of adult education - from pedagogy to andragogy*, Englewood Cliffs NJ: Prentice Hall Regents, pp.46-49.
10. Kopelman, L. (1983), 'Cynicism among medical students', *Journal of the American Medical Association*, 250(15), pp.2006-2010.
11. Last, L. and Fulbrook, P. (2003), 'Why do student nurses leave? Suggestions from a Delphi study', *Nurse Education Today*, 23(6), pp.449-458.
12. Maben J, Latter S, Clark JM. (2007), 'The sustainability of ideals, values and the nursing mandate: evidence from a longitudinal qualitative study', *Nursing Inquiry*, 14(2), p.99.
13. Marshall, R.E. (1978), 'Measuring the medical school learning environment', *Journal of Medical Education*, 53(2), pp.98-104.
14. Molyneux, D.H. and Davies, J.B. (1997), 'Onchocerciasis control: moving towards the millennium', *Parasitology Today*, 13(11), pp.418-425.
15. Pace, C.R. (1960), 'Five College Environments', *College Board Review*, 41, pp.24-28.
16. Schulze, F. (1985), *Mies van der Rohe: A critical biography*. Chicago and London: The University of Chicago Press, pp.252-257.
17. World Health Organization (1996), *Cancer pain relief* (2nd edition), Geneva: World Health Organization, p.16.