

The man who brought science and a touch of humanity to Australia's Olympic swimming hopes

August 5 2016, by Kate Fullagar

As we head into the summer Olympics in Rio, many Australians will be looking forward to the swimming events in particular.

As they do they should pause to remember the achievements of our greatest swimming coach, [Forbes Carlile](#), who at age 95, died only a few days before the games.

The [tributes now flowing](#) recall Carlile's many sporting innovations, his knack for producing champions, and his [forthright – sometimes even intimidating – manner](#).

But what were those innovations, and what was that knack? And did his manner have anything to do with either?

Early science

The driving force behind Carlile's innovations was his scientific background. As an undergraduate at the University of Sydney, he first [studied medicine but soon switched to physiology](#), working under the supervision of [Professor Frank Cotton](#) who is often referred to as the father of sports science in Australia.

After graduating with an honours degree and then a Masters of Science, he continued for some years with Cotton at the university, teaching and

researching the ergonomics of athletes. The two men together established the first "laboratory" for training excellence at Palm Beach, New South Wales, in 1945.

It was at Palm Beach where Carlile tested his first theories for improved swimming performance: increased workloads and year-round commitment. In the 1940s, most coaches were wary of [over-stressing a swimmer](#), fearing that too much swimming could weaken the body and lead to staleness.

So, too, most swimmers rested for the winter months – perhaps not as surprising as it seems today, given that most swimming was done in ocean pools or unheated outdoor facilities.

Carlile's experiments showed that increasing the distance per session generally strengthened the body rather than weakened it. He also advocated for more indoor pools, even building one himself at his rented property (somewhat to his landlord's consternation).

Olympics success

The first clear vindication of his methods came in the [1956 Olympics](#) in Melbourne, where as head coach he led the Australian Swim Team to eight of the 13 gold medals on offer.

By this stage, Carlile had set up his own swimming laboratory at Drummoyne, with his wife Ursula. During the next decade he pioneered other techniques, all based on scientific experimentation.

Most are now standard features of elite swimming competition the world over. These include even-paced racing, low-fat diets, a steady two-beat freestyle kick, and the "training taper" (fewer miles, more speed) in the run-up to a main event.

To aid his observations, he invented the large-faced pace clocks now found on all poolsides; the habit of measuring heart rate at regular intervals; and the daily logging of workouts.

The golden Gould

By the 1970s – especially once he had propelled his most successful protégé, [Shane Gould](#), to Olympic stardom – nearly every coach in the country followed Carlile's methods.

Into the following decade, some pushed them even further. Whereas Gould, for instance, swam on average 60-70km per week, some swimmers were clocking 80km. Where Gould's workouts lasted two hours, some now lasted two and a half. Whereas Gould prescribed optional gym sessions, many now had them as compulsory, in addition to the standard ten or so pool sessions a week.

But the results did not always support the increased intensity. While the Australian Swim Team never fell back into the international doldrums of the 1940s, it only nabbed one or two gold medals at each successive Olympic Games until 2000.

Had systems replaced systematic experimentation? Did Carlile's innovations lose some of their edge when they no longer had his close scientific eye tracking their effects and making adjustments accordingly?

During the last quarter of the 20th century, Australian swimming seemed to follow the results of science more than the process of constant scientific inquiry and refinement.

Shane Gould's [recent reminiscences](#) of her coach add a further dimension to our understanding of the role of the scientific approach in

[swimming](#):

He was into that [systematic method], but he didn't medicalise and he didn't mechanise people. So while he had a scientific approach, he still understood the humanity of our bodies and, you know, respected us as people, embodied humans not as deconstructed body parts.

Carlile's knack for producing champions, in other words, was ultimately in the way he combined a scientific mentality with an astute feeling for the individual quirks of each swimmer under his care.

He managed to "throw volume" at his swimmers – in Gould's memorable phrasing – yet still see them as humans more than as objects of study.

We go to Rio

The Australian swimmers performing this year at Rio are all beneficiaries of Carlile's innovations.

All have tallied untold distances in the pool, all have battled against the hands on that poolside clock, and all, presumably, have enjoyed their recent taper into upcoming events.

But if they do well on the dais in the end, it will probably mean they also had coaches who nurtured, held or otherwise carried them through the rigours of their preparation.

They will show that Olympic glory is cherished above all because it is a human achievement.

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