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USRPT IS THE ONLY COACHING MODEL THAT IS WORTHY OF ADOPTING: A STATEMENT OF CONVICTION

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My early training was in science. I worked first as a student then as a colleague with Professor Frank Cotton at Sydney University. In those years, "*Prof*" Cotton was one of the foremost applied physiologists working in sports and human movement. My education and work-association embedded in me two features of scientific discussion.

The first was that "*beliefs founded in objective facts can only be refuted by evidence founded in objective facts.*" The corollary of that premise is: "*What can be asserted without evidence can also be dismissed without evidence.*" It is against the former assertion that I have concluded for some years that sport-related science now at last is capable of reviewing and evaluating coaching dogma and ignorance and exposing its remarkable extent.

The second feature was that there are rules for argument. Those rules have not changed since the days of the Greek enlightenment. They require premises to be true and statements of fact to actually be steeped in objective observable and measurable data. One modification to the time-honored structure of logic is the observation of *Ockham's Razor*.

Honoring those concepts when evaluating suggestions, publications, and coaching proselytations, led me to often deny believing what swimming coaches have claimed and to continue looking for evidence-based coaching directions and behaviors. It has always proved fruitful for my wife Ursula and me to keep an open mind and consider activities of other sports and human behavior in general for suggesting better ways of coaching swimmers.

Unfortunately, there was a time, perhaps 30-40 years ago, when swimming coaches claimed that coaches were more advanced than scientists in understanding/knowing what best to do with swimmers. That is now completely outdated. The degrees offered in tertiary institutions, sport science publications, and active very experienced scientists, have led to an information explosion that has outstripped persistent dogma and shown to be irrelevant much of swimming coaching education. I rejoice in this being the time of answers being available to most questions that are pertinent to effective swimming coaching.

We have also seen the rise in sport scientists with impeccable credentials and productivity involved in improving coaching and sport/swimming participation. Professor Tim Noakes of the University of Cape Town and Professor Emeritus Brent Rushall of San Diego State University are but two who spring into my mind. A distinctive characteristic of both gentlemen and others is the underlying belief that what is being used today as coaching knowledge and practices will be shown to be mostly wrong in the future (20-25 years time is often mentioned). It has long been thought that a central responsibility of universities has been to predict and evaluate what society will be like in the future. It is only productive to follow that focus and generally evaluate what we can do better as coaches. Being closed-minded to new ideas is a characteristic of humankind that does not serve much purpose other than in religious domains. Max Planck observed:

"A new scientific truth does not triumph by convincing its opponents and making them see the light but rather its opponents eventually die and a new generation grows up that is familiar with the truth."

Today we see another instance of the tussle between the uninformed and the scientist in the hysteria surrounding *Ultra-short Race-pace Training (USRPT)*. Much of the original development of this most recent model occurred in recent years at Cherrybrook Carlile Swimming Club. The head coach there, Greg McWhirter (who has been associated with Ursula and me for almost 30 years), evaluated one facet of USRPT, that being its effect when compared to slower-longer distance swimming tasks on the motivation of age-group swimmers. The preference was ostensibly unanimous in indicating USRPT as being preferable, more relevant, and more enjoyable than *traditional* age-group coaching dictates. Greg's investigation earned him a Gold Coaching License with Australian Swimming.

USRPT was formulated by our long-time associate (now in excess of 53 years) Professor Brent Rushall. Always steeped in science and applying scientific methods in practical settings where possible, Brent impacted the performances of swimmers from the 1960s at the *Forbes and Ursula Carlile of Swimming*. While Ursula and I were coaching the Dutch Swimming Team in the years before the Tokyo Olympics in 1964, Brent directed our swimmers and programs. We placed four swimmers on the Australian Olympic Team partly because of the introduction of a technique-based winter training program, it being the first of its kind to our knowledge anywhere.

We were fortunate to keep in contact with Brent when he left Australia to attend Indiana University and serve as a research-associate, doctoral student, and confidante of the late "Doc" Counsilman. From then on, his involvement in Canadian sport, particularly in swimming with the then Head Coach Don Talbot, was associated with further advancements in swimming science and performance. Although trained in work physiology at Sydney and Indiana Universities, it was primarily in the realm of performance psychology and almost to the same extent biomechanics (movement efficiency and effectiveness) that he scientifically demonstrated new directions and the reasons for discarding old beliefs in those two under-emphasized areas of swimming coaching. Much of modern day thinking, particularly amongst administrators with a smattering of coaching experience, still has to catch-up with what is known to improve swimmer performances in those two areas of science.

The current anti-USRPT dogma that is given fair voice in print and on-line publications explains who and why swimming performances seem to be stagnating in several countries. Were it not for a few remarkable performers on national teams, the spread of mediocrity might be recognized.

For the past 10+ years, Ursula and I have questioned Brent about new revelations through science that contravene conventional coaching "*wisdom*" (or lack of it). Consistently, we were swayed. USRPT is built on scientific evidence, not some crack-pot ideas. It is contrary to the ignorance that many are afraid to admit is their wont. We find it very difficult to understand why anyone would not grasp all the facets of USRPT. It is scientifically born and eliminates much of the irrelevance of the modern-day swimming experience. For those who use it wisely and knowingly, the reports of successes and delights are burgeoning more each day.

This is not the first time that Dr. Rushall has been involved in controversy with regard to swimming knowledge. In the early 1990s, he spent two years as Director of Coaching for New South Wales swimming. In such a role, he performed educational duties through publications,

courses, and consultations. Coaches Paul Hardman and Greg McWhirter, NSWimming Coaching Coordinator Neil Ryan, Ursula and I were exposed to Brent's evidence and physics theory that debunked lift as the important element of swimming propulsion. The technical people and coaching leaders at that time in Australia demanded Brent be "*fired*" because of his wrong (read *heretical*) teaching. Working with Coach Hardman and to a lesser extent Coach McWhirter, Carlile swimmers rose to supremacy in Australian swimming through the introduction of technique and psychology practices all in what seems to have been 12 months.

In 1994, three colleagues and Brent published an article debunking the Bernoulli Principle for swimming propulsion. Dr. Joel Stager of Indiana University opted to publish it in the *Journal of Swimming Research* despite it being contrary to conventional beliefs. The late Brian Counsilman wrote an article published in an *ASCA newsletter* that was absolute rubbish. Brent asked if he could write a rejoinder pointing out the errors. He was rebuffed with an emphatic "*No*". ASCA was not pleased with Joel having published the article ("*It was all wrong*"). When Dr. Ernie Maglischo apologized to all who would listen (I think it was ASCA 1995) saying he had been wrong all those years about lift and that Rushall et al. were correct, coaching administrators in the USA started spouting as if it was their idea and thinking all along. Similarly, when Brent gave his "*myths*" address at ASCA 2009 (in retrospect I think John Leonard invited Brent through my persistent hounding), he pointed out six things (<http://coachsci.sdsu.edu/swim/bullets/ASCA2009.pdf>), all of which were presented by others at the same conference. A response to me was "*we already knew those things*". And yet, to this day, ASCA education and annual conference presentations still perpetuate those myths/dogma.

The point behind this long historical perspective, and given my 94 years I have a long perspective, is that swimming has not kindly accepted new science and the implications for improving swimming coaching and performance. Unfortunately, it is a case of *beliefs founded in objective facts being contested by dogmatic beliefs*.

When talking about USRPT, Ursula, Brent, and I decided that it would be best to write many supplementary articles and descriptions of the development of the coaching formula so that there would be no misunderstandings. Unfortunately, few have read the extensive supplements and explanations (<http://coachsci.sdsu.edu/swim/usrpt/table.htm>) that are intended to further the comprehension of USRPT. The lack of understanding is commonly revealed in the treatment as if USRPT was only a conditioning model. Nothing could be further from the truth. Recently, USRPT was defined/described thusly:

USRPT is a technique-oriented system that uses a particular training format to maximize the opportunities for learning race-relevant techniques. Its second priority is to make coaches good teachers so that they can assist swimmers in changing their relevant techniques. Thirdly, since psychology determines the outcome of races, that has to be emphasized. Finally, conditioning is limited to inherited abilities and can be accomplished fastest and most effectively by ultra-short training.

Where are the critiques on the technique, psychology, and pedagogy emphases? They are not mentioned because I am sure the critics have not read enough to fully understand what USRPT is.

I shake my head in wonder at "*Here we go again.*" As Johnathan Swift in 1706 opined "*When a true scientific innovator appears in the world, you may know him by this sign, that the dunces are all in confederacy against him.*" USRPT is founded in science. Unfortunately, recent

researches have not supported many of established coaching procedures in conditioning, technique, or psychology. Few coaches are effective teachers of technique for they are not trained in pedagogy or the teaching of human movements.

Any coach not willing to take the time to learn, understand, and implement USRPT in its entirety will not do the best job of coaching swimmers. There will always be the observation of "*Great swimmers make great coaches*" without any consideration of how many swimmers do not turn out great, or even improve, and in some cases fail under that coach. A coach has to take responsibility for failures as well as successes. Since, USRPT is individual-centric, failures will be few and the successes will be many.

USRPT is the most explained and described coaching model for swimming that I have come across in my long history of involvement in swimming. Sometimes, Ursula and I wish we were younger so that would coach the USRPT way. We have no doubt how much more successful we would have been in our careers had that been possible.

In the Carlile organization we have always prided ourselves on our collegiality and accumulated knowledge. Consequently, it is appropriate for the final summary of this article to be a quote from our longest serving coach, Greg McWhirter. It speaks as much for Ursula and me as it does for our other coaches.

USRPT works because it envelops the total organism in a specific stimulus for a specific performance. Much of traditional training categorizes training effects whether they be cellular, mechanical, or psychological. That piecemeal approach, although easy for "experts" to identify, usually in a laboratory, seems to focus on singular changes in an athlete when exposed to training. It does not recognize the most important truth: it is the race that coaches, swimmers and scientists should aim to improve. A race involves all facets of an organism's ability and it is a race that ultimately should be the evaluation of how coaches have delivered training and practices. It is the specificity of training that provides a solid platform for race improvements and USRPT is the only stimulus that adheres to the rules of specificity for the total individual's requirements for race adaptation and therefore improves an individual's race performances.

Respectfully submitted,

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Footnote: I would like to thank Ursula Carlile and Greg McWhirter for their more than substantive contribution to the development of this statement.