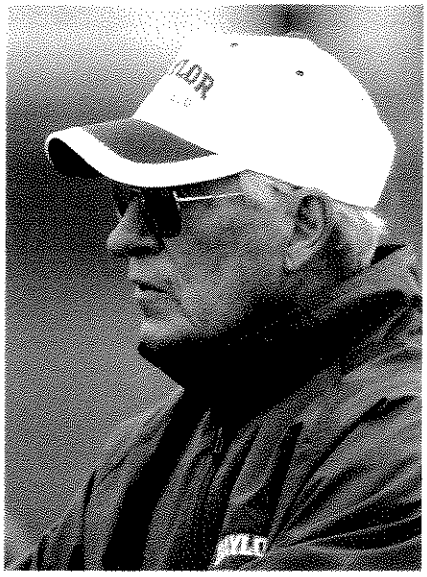
Clyde Hart on the 400:

Train S-L-O-W-E-R to Race Faster

by Andy Friedlander



For years sprint coaches have believed that the way to run fast in competition is to run fast in practice. Most coaches still do.

But Clyde Hart, who has coached 10 Baylor University sub-45 400-meter runners, including Olympic gold medalists Michael Johnson, Jeremy Wariner and Darold Williamson, believes that the key to running fast 400s is to slow down -- that is, to train at relatively slow speeds.

Coach Hart knows this is hard to believe. Certainly Jeremy Wariner, who arrived at Baylor as an 18-year-old freshman in the fall of 2002, didn't believe it at first. In fact, it took Hart himself a long time and a lot of experience to convince him that he'd stumbled on something that is so counter-intuitive, but that works.

Of course, you don't have to believe Hart. But considering that the Baylor coach has trained the fastest quarter-miler in history and the fastest on earth today, not to mention 15 NCAA-champion 4x400 relay teams, it might not be a bad idea to listen.

"The hardest thing for coaches to understand is that it's not that athletes couldn't run a lot faster in training -- especially our Olympians, when they're running, say, workouts of eight 200s in 28 seconds," Hart explains. "Of course they could run faster.

"But that's not the purpose of the workout. The purpose is to run eight of them. It's the conditioning. It's putting money in the bank. It's building a reserve. That's the philosophy behind it."

And the philosophy works. It helped Hart take Michael Johnson to heights unimagined in the long sprints, a decade-long dominance not seen in the 400 before or since, including his spectacular world record of 43.18. And it has allowed Hart to turn 20-year-old prodigy Jeremy Wariner from a high school state champion in Texas to an Olympic gold medalist on the verge of breaking the still-magical 44-second mark in two years.

Still, even with Hart's unmatched credentials as a coach, something as unlikely-sounding as this slower-means-faster idea can be a little hard to swallow.

"When you first start doing the workouts," Wariner said recently, "you're sitting there, like, 'Are you serious? Is he serious about this? Why are we doing this?' But as the year goes on, you realize you're getting stronger, and at the same time, you're keeping your speed, and then getting faster. That's when you realize it's actually working."

Hart realized the same thing 15 years ago, when he stumbled onto his revolutionary training method completely by accident. In 1990, Michael Johnson was a tremendously gifted Baylor senior who had shown only glimpses of his immense potential. That's because in each of his first three seasons, Johnson would come up injured before the biggest meets.

Frustrated, Hart decided to make sure his star made it to the NCAAs in one piece as a senior and decided to go conservative with Johnson's training -- no risking a pulled hamstring with full-speed sprinting in practice. Speed work was kept to a minimum, and only in 50-60-meter stretches, or in short bursts when practicing starts and relay handoffs.

"Michael was the best-kept secret in college, because he kept getting injured, always at the very end of the year," Hart said. "We sat down before his senior year and said, 'We're just going to slow down. We're not going to take chances in workouts.' That's when I told him I felt strength and speed were synonymous, that if he got stronger, he'd get faster.

"So we changed our program. We kept in a lot of the things we trained the 400 guys on, but we adjusted some things to protect Michael. We fully intended to go back to our regular training program once we got him through a healthy season, and put back in the stuff we'd taken out. But when we slowed down and quit doing so much fast sprinting, that allowed us to do more volume work, taking short rests. And about the time I decided it was time to start doing some more of the faster things, Michael's times started dropping. He was at 19-point-something in the 200

and running great. So I thought, well, we'll go a little longer with this type of program, and to make a long story short, we've gone 15 years and we haven't changed back yet."

Since that 1990 epiphany, seven other Baylor 400 guys have run under 44.80 – with Wariner's 44.00 and Darold Williamson's 44.51 the most recent evidence that Hart is on the right track.

Hart's system begins in the fall, when his runners open training with as many as 20 200s at a very slow pace, about 40 seconds each, on the grass. As the season goes on, the pace quickens and the repetitions shrink, but never to the point of full-speed sprints.

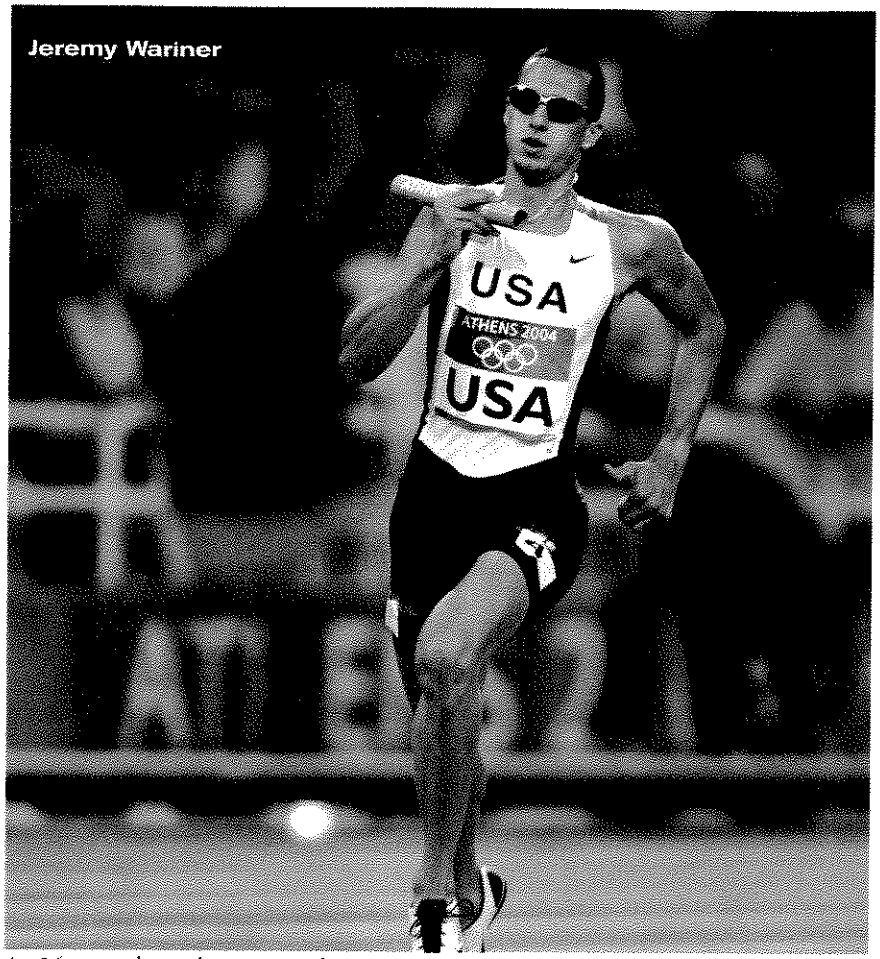
"By NCAA time, we're down to four or five 200s at 24-25 seconds," Hart said. In other words, as the number comes down, the speed gets faster and the rest intervals get shorter. We have a formula. If you're running eight, they're going to be in 28 seconds. If there are six, they're in 26. It may be that in April, for the Texas Relays, we're only at 26 seconds, but the kids will go down there and run 20 or 21."

"It's hard when you think about it, but when we start doing the workout, it feels easy because we drop the time slowly each week," Wariner said. "He won't just go from, say, 29 seconds to 26. It's gradual, so it's not as hard as you'd think."

By changing the training routine from a small number of fast 150s, 200s or 300s into more repetitions at slower pace with less rest between them, Hart discovered that his athletes were able to better withstand the unique physical demands of the late stages of a 400-meter sprint while sacrificing none of their flat-out speed.

"We eliminated overdoing such things as time trials, running fast 150s and fast 300s," Hart said. "The rest factor became a lot less, because if you're not running quite so fast at workouts, you can do more repetitions. And if you're going to do it slower and do more repetitions, you're going to take shorter rests in order to work the body the same amount.

"For example, three 200s in 23 seconds, you've got to take 5-10 minutes rest. But you can do six of them if you run them in 26 seconds, and you can take 90 seconds rest. Now what you've got from that is you've got twice the amount of running in and you've cut the rest down, which is tremendous for conditioning. People say, 'Yeah, but you gave up the speed.' But we found that as you get stronger, your speed is enhanced."



Jeremy Wariner

Hart also discovered a welcome side effect. As his runners' aerobic conditioning improved – the result of the slower, higher-volume workouts – they were able to hold up better through a long season than most of their competitors.

Wariner is a spectacular example of that phenomenon. He began last year running world-class times in the indoor season, posting a world-best 45.39 at the NCAA Championships in early March. In April, he ran his first sub-45-second outdoor time, set another PR at the NCAA Midwest Regional in May and won the NCAA title with a strong 44.71 in early June.

But instead of wilting in the late summer from all that hard racing, Wariner actually got stronger – and faster – as the year went on. He dominated the U.S. Olympic Trials, winning the final in 44.37, and was a revelation in Athens, going 44.00 and looking as if there was plenty more gas left in his tank.

That was no accident, Hart said. Rather, it was a product of using Wariner's training to "reload" several times over eight months of top competition. Hart broke the year into segments -- the indoor season, the collegiate season, preparation for the Olympic Trials, and the run to Athens. And after each one, he had his runners begin their training again as if the season were just beginning.

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Photo: Victah, PhotoRun

Train Slower to Run Faster

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Hart's sub-45 Baylor list

43.18	Michael Johnson	44.74	Marlon Ramsey
44.00	Jeremy Wariner	44.74	Raoul Howard
44.51	Darold Williamson	44.75	Deon Minor
44.59	Raymond Pierre*	44.86	Zeke Jefferson*
44.72	Brandon Couts	44.98	Willie Caldwell*

* before 1990

"We're running from strength," Hart explained. "A lot of kids run out of gas because they do a lot of speed work. A lot of people can develop quarter-milers and get them down to a certain time. But the secret is being able to stay there and move to the next level. Too many of them do this by doing a lot fast running, and the kid can get where he can run a 45 or a 44. But can he go through the rounds? Can he do it a full season? We put more in reserve than other people do. And that's all because of the training.

"Last year, we had four seasons. To get ready for the Olympics, I had to make sure that we reloaded at least three or four times during the year. A lot of people just went through June, and they kind of ran out. But after each segment, we would start over and go back to the basics. We might be running 5-6 200s, but we'd go back to running 8-10 of them for a week, before going back to what we were doing."

As Hart is the first to admit, none of this is the result of scientific research. But trial and error, or in this case trial and success dating back to Johnson's senior season in 1990, led to some irrefutable conclusions.

Hart actually got the first inkling that slower might be better way back in 1974, when a stretch of rainy weather soaked the cinder track and kept the Baylor quarter-milers from getting in their usual speed work before the Texas Relays. The night before the meet, Hart told his concerned runners that their strength work would be enough to carry them in the 4x400 relay.

The Bears left with a victory and a meet record, and when Hart asked anchor man Tim Son how he felt after running his opening 200 in 21 seconds, Son replied that it felt like No. 4.

"He said, 'Coach, when we were running six 200s in 26, after No. 4, that's the way that 21 seconds felt,' " Hart said. "So when you're running tired, you get the same sensation as running fast."

But conventional wisdom called for speed work, so Hart went back to his normal routine. The thinking then was that the 400 was an overwhelmingly anaerobic event, as much as 90 percent anaerobic to 10 percent aerobic. Aerobic conditioning work, meant to increase oxygen uptake, was mostly done early to build up general conditioning, and was then replaced by shorter, faster sprints for most of the season.

Since the change of philosophy after 1990, the Baylor staff has never sat down and analyzed their percentage of aerobic workouts to anaerobic, but they knew because of the slower pace that they had greatly increased the amount of aerobic training.

"But it worked, so we never thought about changing back to the old way," Hart said. "We've been tempted, but every time we've been tempted to do it, we invariably got someone hurt and decided it wasn't worth it. And the times kept getting better.

"Then lo and behold, about three years ago, there was some research that came out saying that the 400 meters is about 60 percent anaerobic and about 40 percent aerobic. Well, we were doing that already. The research that was done just validated what we had done by trial and error, by keeping the things that worked and throwing out the things that didn't. We didn't have the research apparatus and the expertise the scientists had when they conducted these experiments, but it has become very apparent that the 400 needs more oxygen uptake capacity than anyone first thought."

Not to everybody, however. Full-out sprints are still a staple in the training of many 400-meter runners, and, Hart contends, it costs them.

"Too many athletes and coaches — and I've been guilty of this in the past — might as well have a meet on Tuesday," Hart said. "Because you get out there and give a bunch of real hard starts, you run fast 150s, you take handoffs, and then you come back with a fast 300. That's all taking out of the bank. You're not putting anything into your training on that day."

Still, old habits die hard. Hart said he read an article on 400-meter training in a track and field magazine recently and found himself shaking his head at its conclusion.

"I don't know who the author was, but he wrote that the only way you can develop speed and be fast is to run fast," he said. "So here's somebody writing that even today. I don't know what it's going to take to prove it to people."

Well, maybe a few more gold medals wouldn't hurt. ◆

Andy Friedlander covers track and field for the Fort Worth Star-Telegram, about 75 miles up I-35 from Baylor University.