

Less than 2 hours 12 for a woman in a marathon, reality or utopia?

It has been a little more than three decades since the women made their first foray into the marathon at the Olympics level. At that time and under the effects of heat, the humidity and pollution, on a summer day 1984, Joan Benoit from The United States, whom a year before won the 3,000 meters at the Pan-American Games held in Caracas, Venezuelan, became the first woman to be an Olympic marathon champion in Los Angeles with a time of 2 hours 24 minutes and 52 seconds.

The participation of women in that distance does not take much time if it is compared with the men. With greater effervescence their participation starts from the 70's, and since then there has been a large increase in the number of participants women in relation to their male counterpart and already the number of women taking part in this type of races it is in the order of 40 to 45%, which indicates that in relation to the men their percentage increase in recent years has been higher.

Lately, and mainly sponsored by some shoes companies, had been launched several projects to find the first human being to run under 2 hours in the marathon, so there are already several candidates in those projects that meet the profile to achieve this ambitious goal.

However, unless I know it, a similar program has not been started in try to find a woman capable of running under 2 hours 12 minutes in the same distance, feat that would equal to improve at least 3 min and 23 seconds the 2 hours 15 minutes and 24 seconds that is around 15 years of being established in London as a world record by the British Paola Radcliffe.

What means to achieve this goal? First, the woman in doing it must keep an average pace slightly below 3 minutes and 10 seconds for each km of the distance, and be able to spend the first part of her race at an average of eighty two seconds slower than the current world record for the women's half marathon, while for the first man to achieve lower the 2 hours barrier in the mythical distance should go to a partial of less than an hour on average for the first half of the race, almost a minute and a half slower than the current world record for the half marathon, for that reason, I arbitrarily consider that it is more viable for a man to run under 2 hours in a marathon that a woman to be able to improve 2 hours 12 minutes in this distance.

Recently the Kenyan Peres Jepchirchir set a new world record for half marathon completing her race in 1h 05 min 06 sec in The United Arab Emirates, event where she, who is the world champion of 2016 in half marathon also set the a new world record for the 20 kilometers in her way to the half marathon win in The Emirats, with 1h 01m 40s, so she could be considered one of the most serious aspirants to achieve such goal. It is logical to think about other candidates to reach it, all of them from East Africa region, Ethiopians, Kenyans and Eritreans, without implying that any of those women that currently are leading the large competitions in the world could achieves it since always have to take in consideration the immense quarry of runners from that side of the planet.

But, and only to being born there is enough to achieve such a goal? Undoubtedly not to do it is necessary to comply with a series of parameters that guarantee the best conditions for a woman managed to run under 2 hours 12 minutes in a marathon race. If we make an analysis of the best

long distance runners in the world today and the possibility of any of them achieves it, we see that we have the necessary human material, from Jepchirchi, Dibaba, his sister Tirunesh or any representative of the great quarry of runners from East Africa.

The woman to achieve such a feat must have a great physical condition, a body designed to run long distances, low weight, high oxygen consumption, much running economics, and even more than that, an extraordinary volitional capacity.

It is required a woman who is capable of running their 10,000 meters in averages of 29.05 to 29.25, which will assure her the speed and enough cushion needed to endure moving to a average of 3.09 per km for the marathon, as well as a great disposition of muscle fibers highly specific trained to consume fat as an energy substrate, she must consume efficiently glycogen and thus be able to maintain that level of intensity during prolonged execution efforts.

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In addition to runners with the qualities indicated above, it is necessary to have a select group of good coaches, with extensive experience in preparing runners for marathon and of course with excellent results at Olympic and world championship levels in this distance that join the criteria to design a training plan that approaches perfection and do more viable the proposed objective.

How sciences would help? Well, the first thing that should be placed on the table for any serious project designed to achieve this goal is the exclusion of all forms of doping, a truly structured competent work team should have the participation of a group of specialists in the fight against doping so that the achievements of that goal is really made within the legal parameters, but at the same this team must has sufficient training skills, sport nutrition, and sport physiology to develop a program of exogenous assistance for the candidates to achieve the aforementioned goal, a team that allows the athletes to maintain the ability to r metabolically and physically recovered in the most efficient way after each training session, where the intake of nutrient substances is sufficiently useful and that the muscles can count on a greater amount of energy to face the distance, where glucose never ceases of being present in the muscle during each phase of the race. This interdisciplinary team must ensure the exact formula that makes exogenous factors such as temperature, altitude above sea level and humidity have the lowest negative impact on performance.

On the other hand, the runners whom try to reach that time must have a team with the best experience, a good physical restoration of runners before and after competitions; therapeutic masseur, physiatrist, physiotherapist, bio mechanist, psychologist, physical trainer, etc. that elaborate the most successful program of athletic adaptation to prepare the muscles and tendons to withstand the rigors of training and competition, as well as to restore it with massages and other techniques after their intense training sessions. The presence of good coaches and planners is of vital importance, but also it is the route selected for the competition and the appropriate

pace maker are. It also requires the use of footwear and clothing that provides positive responses to the requirement and rigor of maintaining that race steps and the way to make it more efficient and economic.

As I mentioned at the beginning, some commercial firms are already working on this project what for nothing should surprise us that at any time appear in the market individualized running shoes that meet the desired goal, which is none other than allow the foot of the runner to be as short as possible in contact with the floor and also with a greater capacity of return of the energy when treading, practically a footwear that adapted to the individual needs of each runner and that resembles an extension of the legs of these runners.

How to do it?

As we know, the human body is designed to reach unsuspected borders, but as these borders become increasingly ambitious, participation of the sciences is more necessary and more importantly, on the fact that they are located on these goals is the fact that the main achievement is not the race per se, but rather how to achieve them. Let's leave that factor to science, but without exceeding the limits of what ethical is, without being an attack to the health and honesty of the sport? And that is precisely where the core of the matter, the very thin line between running naturally and running under the influence of prohibited substances, and to complete the triangle, run naturally and the way science gets involved.

It is not far the day when both thresholds are broken, the less than 2 hours in the marathon for men and less than 2 hours 12 for women, probably in less than one decade or so it could be reached, who knows when?. It will be so nice to see a female or male runner to in a naturally way with the help of science and wisdom to approach it, enjoying their training and competition, their relationship with other people and their friends and family, if it is not like that, where is the essence of running?