

# Data Literature Review: Ultra Run

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## I. ULTRAS' TRANSFORMATION AS MODE OF EXISTENCE

There is nothing natural about running, this is the first reason I think it's a crazy thing to do and go ultra. Our bodies have accommodated through pre-history to nowadays to eat, and do daily activities that can relate or not to physical activity. And the *need* for physical activity is something that actually comes less and less as a natural thing and more of an outer or inner imposition to change habit, because we don't have actual and obvious necessity to move.

Running is something that relates us to mouses in a cage. Once in place they simply move forward with no direction and no actual spatial movement, or functionality. In rodents the biological significance of wheel-running is still not clear, and it may even have negative side-effects: this analogy can even be taken further and notice that the wheel-running activity matches with a stereotypic and addictive behaviour ([43]). In this sense, it is very common for human adults that run to have lost all the play in it. As kids, or in any kind of fun game with the body at any age, you use your body to do other things: you run in soccer, or you chase other kids when in a playground, or you can cheerfully chase a person you love, or explore the city ([25]) or even escape from the police with despair ([31]).

- Do runners go out by choice, for pleasure? Or escaping the constraints of an unhealthy system? Or pursuing the aims of productive mechanisms? Or is it something that we are bound to do by natural contract? Something that is hard wired inside our genes?
- How much variation comes in running, be it in speed, effort, landscapes? How much of the practice becomes routine? The institutionalization allows to make the results more predictable, does this add or subtract interest in running?

A popular dictum nowadays is that running is a potential, or an objective fact of capabilities of our bodies, that comes hard-wired inside the human body, as of an eternal, physiological reality. (We are the only animal that can sweat, states writer [34]). In the most positive version there is a rescue of the values of a primal activity, which connects the runner with his most basic being, his surroundings and a feeling of living in the present. This last, is a central feature for what gives the calmness of the activity, the peace of mind, and a certain joy of experiencing the solitude or companionship of what nowadays has become a highly ritualized action.

But, how has running become so routinized as to see it as a normal thing? In the past century there was a real increase in physical activity. And not many year ago running in the street was a rare thing. In a fictionalized movie on Ali ([30]), it's a strange image to see a man running in the darkness of the night, much stronger statement if this is a color person in the same decade of the Klu Klux Klan (60s). Prompted in the street, Ali is running and he gets this question from afar: a policeman says "What are you running from son?". This just is in sync not only with the struggle by and against negros but also with the relative unfamiliarity of jogging as a practice, time in which it was just beginning to increase in popularity. But it was still not there. Even if running was beginning to get more attention it was still just a beginning. The early athlete Steve



**Figure 1:** *Bojack Horseman [S03E13] amused but distant from wild peers.*

Prefontaine, also in the 60s –as Ali–, got prompted by the police due to training during the dark morning. With a slight difference, which is that Pre lived in a low populated area, and after a few times this stopped happening (Jordan 1977: 8 [18]).

## II. *We didn't use to run like that, or as much, in the past*

As a major sport, one could consider the birth of running as an institution with the 1st 1896 Olympiads. At the turn of the two centuries, nationalities were still being born around the globe, and as major nations begin to delimit their borders, also the social and sport activities began to delimit their own rules. Olympiads got institutionalized as a major event that sets the standard for the major sports, including athletics but not taking into account any distance further than the marathon. It was not until the mid of the XXth century that practicing certain sports became more popular. In the past you either were a professional sports person, or not: nothing in the middle. And how did running become more massive?

At some point mass society, with its benefits and downfalls, became more prevalent as a lifestyle. After post II WW certain shifts in the epoch made it possible for vast populations to gain new accesses: of consumption, leisure, and a diversity of options in a growing world of increasing well-being, which at the time was considered a golden era. Opulence became more widespread, at least in developed countries; and in a more general view, food production surpassed population increase all over the world and hence, customs and options changed (Hobsbawm 1994: 260, 257 [14]):

*No hungry man who is also sober can be persuaded to use his last dollar for anything but food. But a well-fed, well-clad, well-sheltered and otherwise well-tended person can be persuaded as between an electric razor and an electric toothbrush. Along with prices and costs, consumer*

*demand becomes subject to management.* – J.K. Galbraith, *The New Industrial State* (1967, p. 24)

Happiness, its pursuits and caveats, became more attainable, and hence a topic of closer interest from now on. And yet, hunger and coming out of poverty still remains for the less advantaged one of few chances: through the exploitation of their own body. (Other attainable chances in the mind of the marginal of Brazil, for example, are to become a musician, own a small bar, or becoming a drug dealer, see Silva: 2012 [50]). Hence the importance of running throughout Africa (Finn: [6]), and elsewhere where communities push and enable athletes to participate in a sport fever for economical (and personal) growth, as is in Jamaica. Fortunately, democratization of conditions for training are spreading. As Usain Bolt (2013: 44) explains, his early work at a specialized running facility was possible thanks to the funds and initiative of the IAAF International Association of Athletics Federations, which replicates this model around the world. And running has indeed increased its presence both as an elite competitive practice as well as a hobby for all kinds of tastes, which began to multiply and diversify near mid-past-century.

Jamaica can consider running, in Bolt's account, as a major sport with a popularity close to what soccer means socially in England or Argentina. Usain narrates ([3]) what it is like to live in a country that approaches the sport with great public enthusiasm and a way to advance in a professional athletic and financial career. This perspective is shared in other countries, such as Ethiopia ([28], [41], [47]) and Kenya ([6]). In other places the perspective is more as a hobby, even if a serious one ([7]). Independent of where people do a sport, they all do so for different reasons. You can be a competitive Formula 1 racer and just intend to win one world championship against the best and leave the profession as James Hunt against Niki Lauda [[36]]. In running some just want to finish a marathon or an ultra and leave it behind, other want to get better times, and others try to be the best in the world.

- Where does the drive to come ultra come from, and where (if so) does it end? Ultra running can become a permanent way of life, or just a period of life. What drives to begin and continue? How does it start for each runner?

One could phantom the idea of saying that the popularization of jogging for the masses all began with Arthur Lydiard, who put the first voice that everyone could and should run. He also set the standard for what would be known as running LSD: Long Slow Distance ([13]). But it couldn't be that an Australian coach alone could bring new airs to the chance of living outdoors, and sharing a pleasant activity to take care of general good sense and full sense of living a healthy and sane life. Several conditions were set at the time to make people pay new attention to other realms of life aside from work, family and tradition. And it was the connection between these conditions, the rising awareness of environment and value of country side attractions and national parks that highlight bio-diversity, and many more features that pushed forward the amounts of people running.

Some people would argue that one person alone is not enough for the rise of the masses to sneakers. Others would say you can very well start there: Gabriel Tarde gives hints on how fluxes of social influence converge into a person to get combined in a radically new way, and there is where inventions (if replicated) can be born and grow. Innovators establish a new difference into the world ([52], p. 18), and depending on the chance that these new rays of innovation get replicated or neutralized by opposing forces, a new social life may be born: but if this does not happen, only old traditional forms of social life shall remain.

So perhaps a social flow impulsing running began to grow and got big enough from one side of the ocean to spread to the US, where Bill Bowerman did a job in the same direction (and would

spread running popularity for decades to come, even abroad). These men and others, such as businessmen of several brands, pulled towards the same direction too (Juarez 2017 [23]). These visible players are key places to attend, but several other were working their way through as well.

### III. BEYOND THE INITIAL IMPULSES

Of some books the actual contents don't come one by one by heart, but what remains is the feeling. Was it an important material or not: was it touching or spark an interest? James Fixx's book ([8]) was one of the first big best sellers in running [with over a million copies [35]]: the hard cover text remains to date a reference for other books and runners, with an overarching view of topics tackled in broad view, even tackling a scientific scope at times: the writing is impulsed more by the motivation of someone that became a major fan of running who rescued the values of the activity at every level imaginable: physical, psychological, social, adventurous, and so on (in sum an enthusiast rather than the cold loop of a professional scientist, which he was not –however close). He went from obese smoking coach potato to extreme sports person in just a short time spanning some years and his heart just couldn't take it: he died running, because of a hereditary condition and several years of heavy drinking, smoking and dining.

The important point on Fixx is that he was the first of a kind in that he gave one of the big steps in the 70s for running to be accessible to all. In fact, this is a period where you could state that it was not yet running to me such a big thing but rather jogging. The difference? Speed. And attitude. This is a topic which seems to divide waters, and it may well be a generational thing, early runners are more of casual joggers disregarding the need for speed. Nowadays focus on getting better, quicker, stronger, further is a stronger trend. I want to run, even if steady, without an extenuating pace, enjoy the ride, and go as far as I like. I remember an interview from several years ago the actor and martial artist Jean-Claude Van Damme narrated about his training and saying that he did a jog for nearly 45 minutes every day, without knowing the details of what distance that made, nor what was his pace, just running as part of a general conditioning that he enjoyed.

- What category of runner does the current population consider to fall into? Jogger, runner, just trying to see who influences, goes as companionship, coaches...

### IV. TENACITY

Back in the 80s (and several decades before) a common social figure was that of the encyclopedia salesman, that is, not someone promoting a web page but rather offering knowledge in books (for sale), normally several volumes all together. Collections could differ substantially from one another. There was one series that could well have not been an encyclopedia of knowledge properly, but highlighted real historical figures associated to a specific value. Hence, the titles, *the value of...*:

- *Patience*, on the Wright Brothers, creating the plane, despite crashes.
- *Believing in yourself*, on Pasteur, who found microbes despite discredit.
- *Facing a Challenge* ([17]): Terry Fox ran all Canada single-legged to promote Cancer research.

Turns out that even if this book series was an American production, many world figures were rescued along with the values that exceeded the US scope. And many decades later, Terry remains a national symbol in Canada who is remembered by his personal legacy of running and the Foundation that continues to promote the research that young Mr. Fox started before his death. In

a 2004 poll among Canadians, he was voted the second greatest Canadian of all time in any field ([4] p. 321). Despite this importance as social weight, he is not among the list of 16 *greatest runners of all time* [[42]], another single survey by Runner's World magazine. One consideration on how people value runners of course accordingly to place of survey and publication, as noted in the letsrun.com forum, that (North) American literature is dominant: "It's just silly that Pre gets the win over Viren and Coe. If they selected the best runner of all time based on American popularity, then sure, Pre wins, but they aren't. In terms of dominance, Pre loses to pretty much everyone." And the *Runner's World Magazine* is mainly a US focused publication.

- What kind of fund raising, research, and social NGOs does running awake?

## V. INCREASED TRAINING: FROM CASUAL RUNNER TO ULTRA

Some common Q/A with Scott Jurek ([33]):

### 1. How soon should you go from marathon to ultra?

*No overall set answer. When you feel so. Changes a lot among people. Be prepared and move with your desire.*

### 2. Best thing to think about in ultra races?

*You get a lot of time by yourself. Don't think! Just avoid mental distraction and pulling you down. Plan small steps, moving the next couple of feet ahead, next station, what to eat.*

### 3. How do you get through low points?

*When you think that you have nothing left, there's also an extra little bit. Trust that the edge is perhaps even further.*

### 4. Best advice you've ever been given?

*"Remember this is what you came for".*

Anton Krupicka ([32]) also contributes a Q&A:

### 1. What is the mental preparation for a 100 miler?

*The mental preparation for a 100 miler is sometimes overlooked. [...] Going through peaks and valleys of energy is the quintessence of ultra and realize that you can rebound from a really low point where you were walking with no expectation other than finishing, not alone winning. It becomes a puzzle solving game: nutrition, water, pace, and realizing that the game is enduring through those variables and being prepared that there's going to be tough spot, and it can get better later on.*

### 2. How do you push through the pain barrier? What do you do when it really starts to hurt?

*I have to decide before the race that I am going to finish no matter what. With any doubt in my mind it's easy to rationalize a DNF. So when in doubt in the race you try to work to an intermediate goal, next stage station, or the top of this hill, and so on.*

### 3. What do you wish you'd know before your first win?

*The ignorance of running your first race is underrated and valuable! The cliché that sometimes it doesn't always get worse turns out to be true. You can feel horrible and still feel good later.*

**4. Vital advice as of training for a 100 miler?**

*You need to get a couple of long runs: 7/8 hours. Time being more important than distance on your feet. Intermediate longer efforts. Try fuels, build mental confidence.*

**5. What to do during race to ensure success?**

*Stay in the moment, and don't project too much further in distance, or time. There will be low patches, and they will get better.*

**6. How to fuel right?**

*It's very individual. I stick to water, salt, and sugar. Gels and candy. For a lot of people this doesn't work because they need more solid food. 200-300 calories an hour.*

**7. How do you recover from a 100 miler?**

*I need a month. A week or two of no run. Then eat well.*

**8. How do you cross-train?**

*That is important. Biking in summer, skiing in winter.*

## VI. *Just moving forward* + EXPERIMENTATION

- What are the personal characteristics developed for running ultra?

It is hinted all over the data that it is a crazy idea to go so long, and the idea that being stubborn turns into a positive value is present as well. Dean Karno Karnazes ([24]) knows he is stubborn. Scott Jurek just thinks of moving forward, without overthinking too much: *sometimes you just do things*. But just pushing alone is not enough, to run the distance you have to know how to keep a steady pace in training, how to prepare with nutrition, listen to your body, and know when to *not* listen to the pain.

There are numerous (unusual) stories of how ultrarunners keep eating along the trails when running. Karno eats a pizza ordered during night morning hours while striding through the highway. Scott Jurek ([21] page 65) drinks olive oil believing that it has enough healthy calories to through a race, and then realizes the mistake. And of course, *learning with such experimentation*.

*My body became a laboratory. I tried combining vegetables and grains, fruits and nuts. One of my more ill-advised experiments involved carrying a small flask of olive oil on a 35-mile run, reasoning that my body needed energy and that oil and fat are the most concentrated forms of calories. A few big swigs, a few episodes of diarrhea, a lot of gas and bloating, and general nausea forced me back to the drawing board.*

- What are the nutrients that ultra runners seek most? In which order?

Proteins are needed but seem not to be the major priority. Perhaps prominence comes to glucose sources such as carbohydrates from fruits and vegetables. Along go the healthy fats that some paleolithic diet runners seem to use in a challenge to all current beliefs.

Jurek's book is full of practical indications of how to prepare vegan meals that have all the nutrients he uses on his runs. It has over 20 chapters that are more or less short, and have the format of: first, the story of a relevant race in his professional career; and then, a specific recipe. This format makes for a very quick read and also has the value of giving a quick view of some important events mostly in the US, like Western States, and Badwater, and abroad Spartathlon, and also along the famous Mexican Indian runners raramuri, from the Tarahumara Mountains.

The Tarahumara runners have become well known among the running international community for a number of reasons. One of them being the center of Christopher McDougal's book ([34]), which is also on the top best seller books on running, merits of this text are the epic narrative, the rescue of the body's potentials and the hint that we may be more prepared than we realize to go around barefoot.

One point that is not yet vastly explored in relation to ultrarunning is the religious/msytic aspect. Several authors, including Jurek, mention the point and are well aware of it, but do not make it the center of their focus. An exception is Ludwig's PhD [[29]], which attends to women's experience in interaction with nature. Two authors can help to an approach on the topic from a latinamerican and precolombine perspective:

Kusch ([27]) relies on the way of thinking of merely being, instead of the hyperactivity of constantly doing things for the sake of the requirements of external objectives. His focus comes close to that of the seminal activity of a plant. Another point rescued in an anthropological master thesis is, according to [15] (page 119), to consider the environment as part of our own life in an active way: multiple agencies transcend the human, in this way, the mountains give a sense of cosmological presence and perpetuity.

## VII. RUNNING METHOD'S AND RUNNER'S TIME MANAGEMENT

If one half of the literature by ultrarunners speaks about the *nature* of human beings and the primal side of the activity of running, there is another emphasis, more on the side of *how do people run today, among the city timings which demand other things to do*. This is responded with many different answers and in a number of literary genres. Haruki Murakami is perhaps the most well known (literary) author that is also an ultra runner. He is not even sure at the beginning how to move forward since the subject is simply too broad to begin with. So he leads his writing by sensation of what he feels as he thinks and runs. The result is a number of episodes around dates and places in the way of a personal diary that tries to manage how to gain a method of training along with other daily activities: how running combines with the other duties, and how they confront (in his book this does not seem to happen much).

Of course there are topics and physical obstacles that repeat among different runners and authors. A common one is the observation that for those who drive there is a more or less permanent position of the leg that needs to press the clutch in a outward fashion: and this is a different leg depending if you live in the UK or not. Another feature mentioned by Murakami is when there are certain parts of the body that hurt after running a long distance: When I ended my 100 kilometers race, says the author ([37]), my wrists were totally swollen. Possible reasons? Maybe this is the only part that is used to be tense, because writing doesn't have as much body self awareness as when running. Also, I'd say he doesn't use dvorak nor vim: as they say, *you edit more than you write*.

- Are our daily activities and body habits affected by running and vice-versa?

If one author is an ultra runner, could this be more than a single case, that is: are other authors also ultra-runners? One other author and ultra runner is *the oatmeal*, the web page name and pseudonym of Matthew Inman, blogger. According to this writer, his main motivation and obstacle to decide to go outside is that he already has a passive life in other aspects of living indoors and eating with no measure. He states that he has never felt that he had to move past from the infamous “wall” that challenges so many runners. Rather, he is confronted against his own inclination to stay home and do nothing, what he calls “The Blerch” [[51]]: “The Blerch represents all forms of gluttony, apathy, and indifference that plague my life”.

- Is running (ultra) an escape from our own personal enclosed spaces and intimate-social life indoors, and it’s habits?
- What is it to be *inside* “normal social reality”?

### VIII. ECOSYSTEM, NUTRITION AND MOOD

Emphasis differ among authors depending on what they eat, how, when, and what happens when you ingest certain things instead of others. There is a trend of attention in that all runners understand that this point always affects their running, recovery and improvement. The athletes that get close into the subject show the intricacies of nutrition. On the one hand, you need to know what food does to the body in order to get specific results. On the other hand, the relationship to food also has consequences that you need to look for available products, fresh ones, prices, and this is normally achieved by getting what is local and in abundance. This last point, in fact, pushes to attend the political aspects of what we eat affect our environment. The political aspect of what we eat, and what it does to nature is shown in at least two sources at hand: in the documentary *Cowspiracy: The Sustainability Secret* (2014) [26], and by a vegetarian medical doctor that makes the case for several reasons on going vegetarian: [2].

In a two-sided view on food, one could state that food goes inward, and outward: centripetal and centrifugal forces. On nutrition plenty is documented. The outward outcome, however is a point always tacit, which in ultra has considerations. The color of pee can be an intuitive indicator of dehydration: the darker the more need of fluids. This operation of checking can serve as an ongoing mechanism, but even so, may not always be enough to avoid kidney failure, which is at a high exertion during long runs. Aside from pee, also consider poop [[44]].

- How do runners check performance? See technological/natural interfaces.
- How do runners go to the bathroom while hours on long runs?

On the performance side, the Canadian ultra running champion and triathlete, vegan Brian Brazier, rescues rare ingredients from around the world, one of them Yerba Mate, common in Latin America (Jurek is aware in the same direction, likely because of his contact with Mexican Culture). The Argentinean adagio goes “you can’t be angry and drink yerba mate at the same time”, this perhaps because it is taken through a metallic straw that recollects hot water: too quick and you get burnt, hence the need to drink at slow calm pace. Yerba mate is a local plant that is drank as hot (and cold with fruit juices in summer) beverage with water and sometimes along other herbs. Despite many benefits, Yerba works as any kind of stimulant (even if benign it has caffeine), this will take a toll on the adrenal glands ([5] p. 124). Brazier shows further as with all ingredients, what are the main benefits of each. Yerba Mate, for instance, includes these nutritional virtues:

- Alkaline-Forming
- Antioxidants



- Electrolytes
- Phytonutrients

## IX. MINIMALISM, TIME AND RESOURCE PLANNING

Controlling food goes along with several plannings for training. Depending on the goals of runners, they can seek for speed, distance, or to get at peace with self-image ([53]), or reaching summits ([48]), or fighting against ageing ([45]) and over training [[7] p. 7]:

*in the last two years I haven't gone any faster. I'm about to turn forty, and I can't help thinking, is this it? Have I passed my peak? Is it time to give up on the thrill ride of chasing personal bests, the buzz of breaking new ground, and instead begin on that calmer, post-peak journey of simply enjoying running? In some ways I look forward to those days, when running becomes a gentler pursuit, less determined and obsessive, when I'll simply enjoy the sensation of my heart pounding, and the feel of the cold, fresh wind on my face without worrying about training plans and tapering and stopwatches.*

All of these approaches more often than not imply some amount of sacrifice or change: on eating, sleeping, social life, of time (and hence of other activities). Once you first start training ultra:

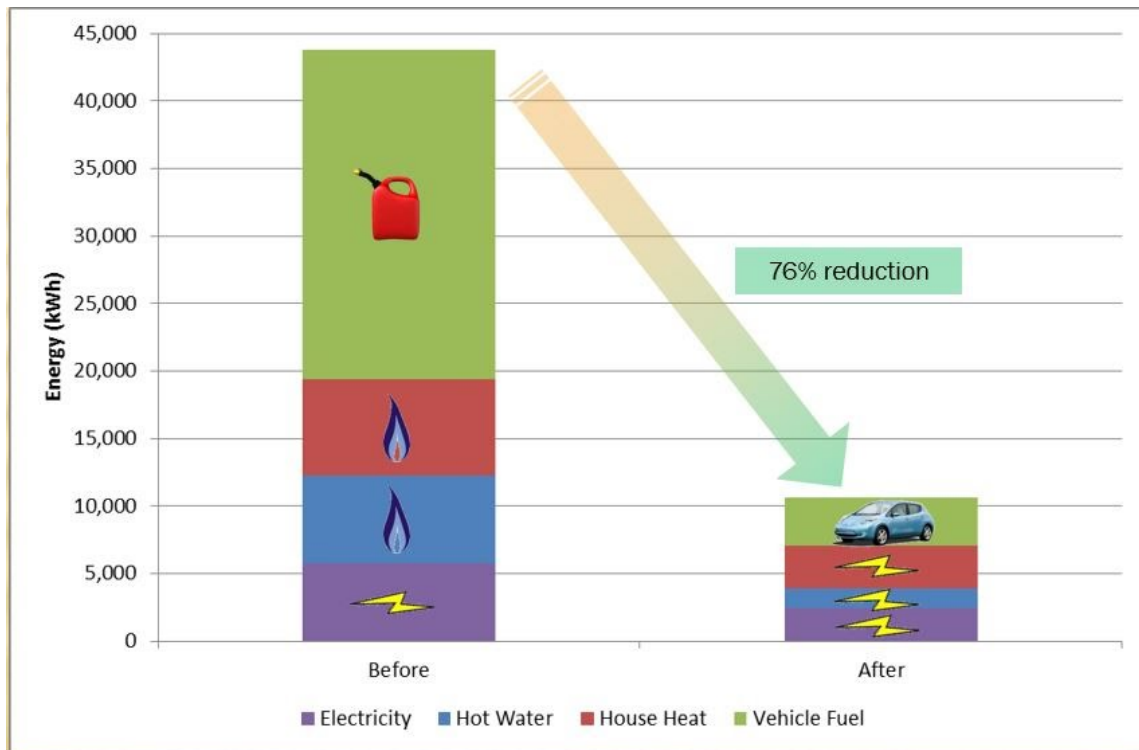
- What do you have to *start* doing different?
- What do you have to *stop* doing?
- Do your daily activities remain in the same direction? *Intensified?*

Sleep deprivation is a major topic that can permit or block a runner's chances at a race. Training materials state that it is not always possible to sleep properly the night before a long run, but at least a good sleep on the prior night is desirable. These kind of calculations are made all the time but even so, once a long race begins a runner can go through days with no sleep, and when they get to sleep they may do so for only a short time.

This time management is at it's most demanding point on the longest races but also applies to shorter ones since sleeping is part of the training. What is most difficult to manage are the unexpected elements of a race: such as weather, fuel, cramps, lights, paths and maps to remain on track, and a long etcetera. Some challenges are already set in a fixed environment, such as a demarcated road, with a specific distance or time to be covered. Other races have additional obstacles to be passed such as natural or artificial physical barriers to be climbed, using no gps, or random shifts of race conditions as part of the game. This is the case with the *The Barkley Marathons*, a 100+ mile event many consider the toughest endurance run on Earth: it consists of a 5 loop race, with a total amount of altitude running that surpasses going up and down Mount Everest (twice!) and is a further up-down distance than *Badwater* and *Western States* combined.

An additional feat is that in this race, the Barkley Marathon –in a treasure hunt style– runners should find book pages scattered over the course and the time of race starting can be at any point in a 12 hour range, hence the need to manage the prior sleep. The combination of seek-to-move-forward plus sleep deprivation is what made Gary Robbins unable to see and find the book page treasures to go forward with the race. All in all, in the struggle of *The Barkley* vs runners, the race is an above average winner, that is, it is more often that the race breaks runners than the other way around. Only 15 persons have finished the race in over 25 years. No modern technology is allowed (no phone or gps), and there is a 60h limit to complete the full 5 loops.

How much equipment are they allowed in this race to carry and how much is convenient? You can see that after the 2017 4th loop Gary is eating a burger with no bread but dipping in ketchup.



**Figure 2:** 76% reduction in energy spent by Jared Campbell.

I can't help but to ask: where does that all go? Meaning not calorie intake but rather the following. Where and how does he go to the bathroom in so many hours and miles? Also, all the team, his wife and another friend, are just there because they're supportive. What kind of environment can sustain these non-productive non-financed interests? His wife is spoon-feeding him yogurt! Even his wife is hopeless and has black eyes on the last morning! She breaks down in tears when someone sends her a cheesecake. Little before she had declared that there was not much more time until it all finishes and *don't have to come back ever again*.

This kind of race is important to have in mind when approaching ultra because it states some main physical and mental endurance requirements, and even demands more on the adventurous side, since there is so much that goes away from a preset institutionalized environment: so much can change and be beyond expectation from all previous training. Also, very very few runners have been able to finish this race and they are not necessarily competitors that excel or are interested in other races. For instance, Jared Campbell is the only 3-time finisher, ever. Side note: the decrease in use of resources for running also applies to living, as a simple image of Campbell's consumption can reflect how all energy used passed to be all cut in half after getting into ultra, this including mainly use of car (should be remembered how eating meat affects climate too, since cattle create gas).

Minimalism is not an isolated subject, quite the contrary. When you literally go up to Mount Everest you want to carry as little as possible ([19]). Minimalism goes as a handy measure when runners realize that they would like to avoid carrying more weight than they can handle and avoid as well getting slowed down. But also it is frequent that consuming just the correct amount of fuels applies to other areas of life aside from running. Being a minimalist is a way of life associated to

being happy with little possessions, a stoic way of life, a general sense of ecology's importance, biodiversity and conservationist value and even aesthetic and touristic sides of reality. Mountains suddenly become a living entity [[40]] and changes relationships between people, frontiers and trails of trash and steps. Climbing a summit, doing a race, can mean much more than a challenge with speed, and records, it can be the landmark of a lifetime such as running across a country at midlife ([46]). Running ultra can even have an artistic pursuit, this is a view that Prefontaine had and is not foreign to mountaineering: each climbing can have the value of an artistic oeuvre ([19] p. 96).

- Does training affect daily activities: meals, schedule, purchase decisions?
- Can running *per se*, or as a trajectory, become a work of art?
- Can summits change perception of the aliveness of environment?
- Does pollution become more evident?
- Does the running gear appear more artificial, human made?
- Do textile factory workers shift from a tacit omission and come more to the forefront of responsibilities in production chain?

**Brown Lung Disease** | *Dusts from hemp, flax, and cotton processing cause byssinosis, which is a chronic condition involving obstruction of the small airways that severely impairs lung function. Textile workers opening bales of raw cotton are at high risk of developing the lung disorder. Byssinosis occurs mainly in people who work with hemp, flax, or cotton dust and therefore is prevalent in the textile industry.* [[16]]

Making yourself calculate the amount of things that you need to live, survive and thrive not only makes you aware of how much you consume, but also what is too little or too much. This pushes to make proper calculations and not go over drive or under drive. And there is plenty to learn from other more experienced, even professional, ultra runners:

*If you play soccer in a amateur fashion, it's impossible that sometime you may encounter with Lionel Messi. If you play tennis, you will never share a court with Roger Federer. But those of us who run have a great privilege: we run next to the best* [[9] p. 148 –my translation].

Despite all craziness that is so popularly and frequently associated with running ultra: a great deal of reasonability comes as well. And this is a treat that is very interchangeable among amateur and professional runners from around the world. An Argentinean ultra runner documents [[9] p. 141] that he found Dean Karnazes to actually be a person with great common sense and being absolutely prudent. And Karnazes [[38]] as well identifies that running is something that everyone can do (and learn the how-to's) and that is what makes the public seeks for similar challenges.

- Does training help to make accurate calculations: time, food, distances?

If you get to know your needs and capabilities closer you can expect results with perhaps less surprises. A common rookie mistake is to take much more food and equipment than required for a race. This means that you get to carry more weight, which can be very costly in terms of bodily energy expenditure ([1]). But by the same coin, the pros sometime go overly light of weight and take benefit from the beginners overload when they stop for refueling during a race. Camaraderie, as narratives go, is somewhat overall always present.

## X. THE FLOW OF TEARS

Emotions, a calm and resilient state of mind, and mother nature are major protagonists of the ultra endeavour: ecology and good sense are widespread (at least as desirable components of the ultra world). Aside, and after years in the running magazine production with *Runner's World*, Brian Metzler defines himself (in his twitter account [@brianmetzler](https://twitter.com/brianmetzler)) as a “perpetuate athlete”, and is founding editor and writer of *Trail Runner Magazine*. The profile of such magazine is more focused on all activity outdoors. The author of the magazine himself also defines himself as a “Gentleman Gardener”. A growing practice could be that more ecological awareness brings better and/or more (non-mandatory) recycling and even worm-composting [[49]], which is more close to a vegetarian life style since they feed from raw uncooked foods, non-processed.

- Could there be an association between running and cooking/eating more natural foods? And between ecological awareness and non-running practices? Also consider animal caring.

The literature on going ultra is quite abundant in paper, and in several formats now that blogs are common, and coaches spread all over the world with different techniques, focus, and backgrounds. Sportswear has a strong investment in the continuation of such trends and even produces videos depicting the bios of ultra runners. Most of them are truthful to the ups and downs in moods of the mental and emotional effort of running extremely long distances and time lapses.

Narratives coming from USA have great detail, as well as from Spain, UK, and over Africa, Asia and up to the Antarctic Poles. Texts from South Africa are also present but not as abundantly. There is however some main features to mention: they are made mostly by less professional runners, and highlight more of the emotional side. In a single book one can find a number of chapters that include repeatedly tears, sorrows, worries and the dangers and resolutions of estrangement from a race in the loneliness of the mountains ([11]). And in some cases, even if at a professional level, the character of the sports person and friendship is emphatic ([39]).

## XI. GUIDELINES FOR BEGINNERS AND PROFESSIONALS

A major overarching theme on the books on running is the experience of the author/runner as a way of giving hints for further training refinement and/or progression. Koerner [[12]] gives the most simple and happy type of advice: do what is at your hand, be consistent in overall summed up miles, and enjoy.

- What is the training goal: injury prevention, health, having a plan?

Rory Bosio keeps it simple: she enjoys the environment, doesn't use a watch, and is consistent [[10]] by adding up mileage at the same time than keeping tight training with a mandatory yoga session everyday to keep flexible, strong core, and with good range of movement. Koerner also suggests that keeping focus on a specific goal –race– is a good choice. But by the same coin you should always prepare for jumping to a plan b: be prepared for the unexpected.

- What are useful cross training (if any)? Does anyone not cross train?
- What practices do runners add up (in their running schedule and aside from running) to maintain consistency and avoid injury and keep focus?

## XII. MOTIVATION & REASONS TO RUN

- What do you like about running?

There are mainly two ways to answer this question:

1. A number of reasons, mostly rationalizations that make sense, are understandable, shareable, reasonable, narratives.
2. Just because. No answer. This can even be hinted on camera with a pause, as Jenn Shelton does in a unedited footage of a 2010 interview [20], the interviewee simply stops to think, looks to the side and laughs with no answer. Much alike Jeanne Favret-Saada *Être Affecté* (1990a). Which sums at first as *I don't know, I like it a lot. [...] Just my thing, that I do, that keeps me happy.* [nodding]. The rarámuri may be on a similar track.

Many runners find more joy and pride on running ultra than anything else, that is, compared with what they do for a living. Motivation on running goes parallel to a “day job”. When Jenn is asked to present herself she asks what should she say: *what I do for work?* And the interviewer just allows to say whatever she likes, so she gives, name, age, and place where she lives.

- What are runners major activity that they identify with?
- How many runners manage to make their day job to be a help or an obstacle for their training? And how may this change once some elite get recognized, sponsored, and professionalized?

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