Boots, Shoes, Sandals or Bare Feet?

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Your feet are the only two feet you got for your whole life and they will always be the ones who take you where you need to go. Treat them like kings because without them your face would be in the dirt.

—Tyson Schultz, Oregon logger

Everyone should go barefoot now and then. A meadow delightful to the eye is equally so to the naked sole, feeling the grasses and flowers and the cool-delicious dew of morning. And a stream is only known with true intimacy when toes are probing swift, cold water seeking a finger-like grip on pebbles and boulders. Glacier-polished slabs, squishy black muck, powdery dust, beach sand, pine needles, snow, all give joy to the sensual foot.

—Harvey Manning, *Backpacking One Step At A Time*,
2nd ed., 1975, page 70

A common misconception is that ankle support comes primarily from the height of the boot extending over and above the ankle. When I worked as a boot fitter for a specialty outdoor shop, I was amazed at how deeply this belief ran. As a response, I would take a boot off the wall and bend the top part of the boot back and forth to show there was no way that significant support can come from this part of the shoe. After providing literature on the subject and relating my personal experiences, some people simply could not be convinced that ankle support has practically nothing to do with the height of the shoe. Ankle support comes almost entirely from how stable a shoe keeps your arch and heel.

—Ryel Kestenbaum, *The Ultralight Backpacker*, page 50

Central Issues Addressed in this Article

What is the best footwear for me to use on trips into the wilderness? Heavy-duty leather boots? Mid-height, lightweight fabric boots? Low-cut trail shoes? Lightweight running shoes or racing flats? Sport sandals? Moccasins or other minimalist footwear? Bare feet? Some combination? Am I open minded enough to seriously consider all of the mentioned options for use under some conditions?

Dialogue Between Footwear Proponents

To shed light on the numerous choices of footwear and to assist in answering the above questions, the following debate/dialogue has been constructed featuring the following proponents:

Logger Man = heavy duty boots
Running Feet = lightest weight racing flats/running shoes
Barefoot Boy = moccasins or bare feet
Light Shoe = trail shoes/cross trainers
Hippie Kid = sport sandals

Logger Man: To start things off, I want to share a bit about my grandfather. My grandfather, with his high-topped, steel-toed loggers boots, has always been my role model. He just loved his Chippewa waterproof "super loggers." My grandfather was as tough as they come, as tough as his boots. I probably will never measure up, but I will never compromise on boots. Wet weather or dry, cold weather or hot, on or off trail—these boots can handle anything. These boots will support the heaviest pack and protect against mud, rocks and snakes. There is nothing more important than your feet when out in the mountains. They deserve the best. Only the toughest boot is good enough for me.

Running Feet: Wow, *Logger Man*! Have you ever tried to hike very far in plastic molded downhill ski boots? I know the analogy is extreme, but that is what heavy-duty logging boots would feel like to me after hiking a few miles, especially

when compared with lightweight racing flats or running shoes. Your heavy-duty logging boots will do everything except feel comfortable on longer hikes. I would be surprised if your feet were not one bloody mess at the end of several long days on the trail. Feeling the freedom and flexibility of minimal protection on your feet is heavenly. As the experts are fond of saying, every pound on your feet is the equivalent to 4-6 pounds on your back. Let's see, that could be as much as 20 pounds extra on your feet compared to mine. When involved in long hikes with lots of elevation gain, that would translate into tons of extra weight lifted uphill. Now, going from a heavy boot to a lightweight shoe is not to be taken lightly (pun intended). Kind of like taking first steps after wearing a plaster cast for months. One should work up to it by gradually strengthening feet and ankles and legs. One needs to train for a better sense of balance. One needs to be more careful about foot placement.

Barefoot Boy: *Running Feet* is really on to something here, but why not take his philosophy to its logical conclusion? Make the transition gradual from heavy to lighter boots, from lightweight trail shoes to sandals and finally to no rigid sole shoes at all (i.e., go barefoot or wear moccasins). I am serious. With moccasins or barefeet, I literally feel the earth beneath my feet. I am forced to slow down, which allows me to fully tune my senses to the natural world. "Sensuality" is my middle name. More primitive cultures, not corrupted by "civilization," have been doing this for thousands of years. Young children do this naturally until brainwashed by over protective parents. Modern society does everything it can to insulate us from life and from nature. At the least, feel the earth under your feet while out in the wilderness. Immerse them in a cold stream on a hot day, walk barefoot in the mud and wet sand. Massage your feet in cool marshes and damp moss. Ahhh—heavenly! My environmental philosophy of living lightly on the earth carries over to walking lightly on the earth. If I also carry a lightweight pack, I don't need heavy boots or shoes to support my weight. Unfortunately, since my lifestyle in the frontcountry doesn't support toughening up my feet to go barefoot full time, I always take some sort of protective footwear (usually moccasins or light sandals) when in the mountains, but I still go barefoot as much as I can.

Light Shoe: Talk about impractical! Racing flats and moccasins and bare feet (*Running Feet* and *Barefoot Boy*) have their place but not on the mountain trails

I travel. They certainly will not work off trail. Yes, I know, primitive peoples have learned to adapt to rough terrain with inadequate or no good footwear, but there is no reason I should suffer the same fate. The best of all worlds is a sturdy, lightweight trail shoe made especially for the backcountry. Most trail shoes provide aggressive traction outsoles, a rigid plastic or carbon fiber shank for the needed rigidity and stability on uneven ground and midsole cushioning for the longer days. High-tech fabrics allow them to breathe and be waterproof at the same time. They can be insulated with the thinnest of insulations if needed for cold weather, and they are not so light as to feel every pebble. Here is one place where technology has triumphed. The more one wears a quality trail shoe with a quality insole, the more one learns to appreciate this technology.

Logger Man: I must step in to challenge these radical philosophies I have been hearing. *Running Feet* and *Light Shoe* especially have fallen into the trap shared by many in our culture: the worship of speed and fads and having the latest technology. Most of this foolishness is fueled by designers and manufacturers who thrive on convincing us that we need the latest "new and improved" model (all to make a profit). Going fast and light is just the latest fad. My heavy boots do quite well as long as I am not trying to cover the miles in record time. This doesn't happen out of the box; it takes a while to break in a good pair of rugged boots. Regarding sensuality, nothing feels so good as slipping into a pair of custom built, quality leather boots that have molded themselves to my feet with serious use.

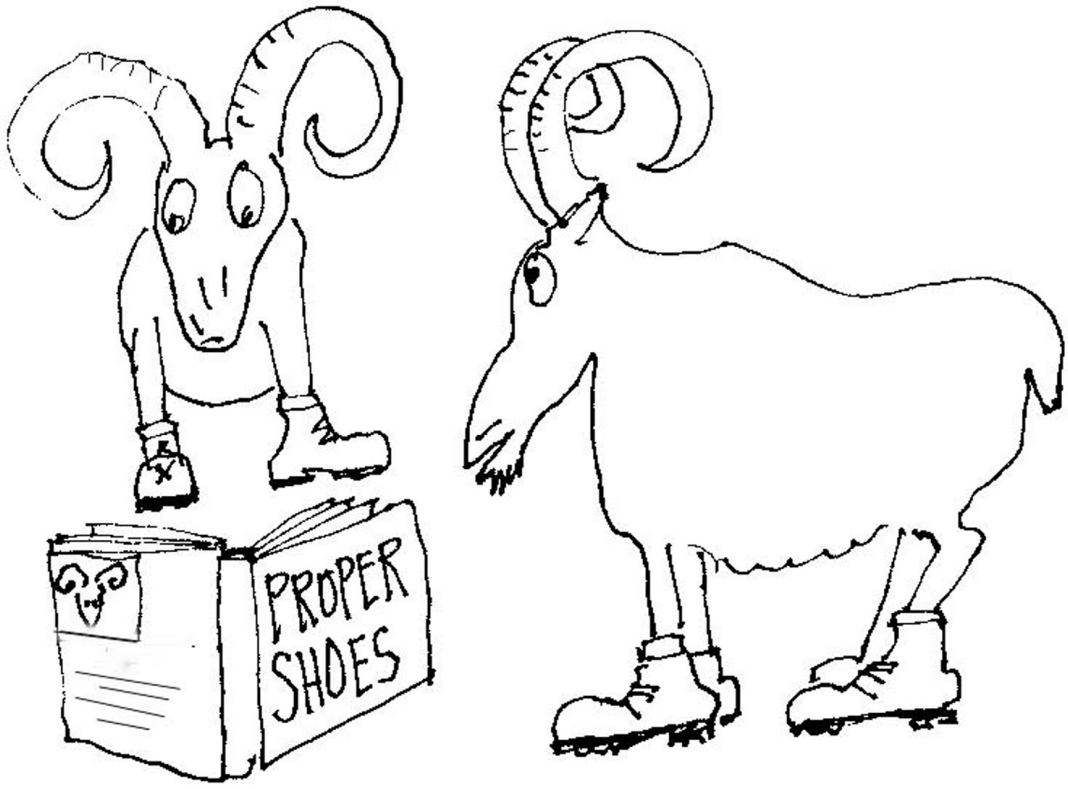
Hippie Kid: This subject is getting heavy, heavy, heavy (pun intended)! I like to keep things simple and to smell the flowers as often as I can. I see well-made sport sandals as the simplest and best option for wilderness travel. They take me everywhere I want to go and remind me to be open and flexible. They encourage me to tread lightly on the earth. They have most of the benefits of going barefoot or with moccasins, but with plenty of protection for mountain travel. One can buy sandals with as much cushioning, support and foot protection as is desired. Sandaled feet keep cool in hot weather and will generally stay warm in cold weather if kept moving. If it is really cold, heavy wool socks and keeping one's core good and warm can make all the difference. For *Barefoot Boy*, walking through wet brush and streams and mud in sandals without socks can be very sensual. If it is quite cold and wet, waterproof socks can be worn over a light pair

of liner socks. Like other lightweight footwear, there should be a transition period. Start by wearing them around home and town, then on day hikes with a light pack and then on longer trips with heavier packs. It is mostly a matter of conditioning the feet and lower legs. Once conditioned, sandals can be quite sensual and functional at the same time.

Light Shoe: All this talk about transitioning and experimentation and different options assumes one has the time and money for all this. Ideally, one would experiment a lot to see what works best under different conditions. But I want to keep it simple and spend my time, energy and trail bucks on other gear. Lightweight trail shoes are the best compromise for the widest range of conditions and they usually fit well right out of the box. However, if one travels primarily off trail in the snow and cold, then boots of some sort are the preferred option. If traveling in the heat, then sandals. If traveling in poisonous snake country, then high top boots. If logging, then steel-toed boots. Again, the most functional piece of footwear that is the foundation of my wilderness wardrobe is a sturdy pair of trail shoes.

Running Feet: Everyone in this group has accepted my starting assumption except *Logger Man*: transition to the lightest footwear that will do the job most of the time. No piece of footwear will be perfect, but I am confident that racing flats or the lightest running shoes will eventually be the footwear of choice for most wilderness conditions, *if* one is open minded enough to experiment and willing to gradually condition the feet and legs for the lighter weight footwear.

Hippie Kid: I second everything *Running Feet* just said, but I am confident that sport sandals will become the footwear of choice most of the time for the open-minded hiker.



WHEN GOATS FINALLY LEARN TO READ

JIM MORRISON

Reader Participation: Footwear Values and Priorities

As should be obvious from the above dialogue, this footwear issue revolves around radically different philosophies and values regarding wilderness travel. What are your values in this regard? Below is a summary list of most of the conflicting values. *First*, add to the list any values I have missed that best reflect your own thinking about regarding footwear. *Second*, circle 3-5 of the most important value concepts from the full list below.

Comfort

Foot and Ankle Support

Orthopedic Requirements/Correction

Toughness and Durability

Protection from Elements

Advanced Technology

Stable Platform

Leg and Ankle Strength

Lightness

Speed

Freedom and Flexibility

Sensual Experience

Experimentation

Money

Quality

Simplicity

Compromise

Claimed Truths and Myths About Hiking Boots

What specific claims are being made in favor of wearing rugged hiking boots in the wilderness and will they hold up to critical scrutiny? Assuming there are no final authorities in this matter of choosing the best footwear, what about the claims being made, especially by authors and others claiming to have expertise?

Following are a number of claims on this subject synthesized from many sources (including much experimentation of my own). Claims that challenge the traditional bias of using boots for travel in mountainous terrain are given priority. A critical evaluation is provided for each claim.

Claim #1 About High Top Boots: Higher-top boots provide a good measure of ankle support if they are fitted properly, if they are tall and stiff enough, and if they are firmly laced.

> Critical Evaluation: Fulfilling these criteria means they will also severely hamper the pleasures of walking and sharply increase energy usage. The trade-off is not worth it, especially if there are other ways to effectively deal with and strengthen weak ankles.

Claim #2 on Source of Ankle Support: Ankle support comes almost entirely from how stable a shoe or boot keeps your arch and heel. The torsional rigidity (i.e., the rigidity when twisted) of the sole and the type of arch support are also very important to stability. The height of the boot or shoe has little to do with it.

> Critical Evaluation: There are a number of factors that determine foot stability. Torsional rigidity and arch support is only one. Another is the width of the footbed. Another is the height of the heel. Yet another is the overall fit and how the footwear is laced. In the final analysis, boots are more likely to satisfy all of the stability factors than lighter weight footwear.

Claim #3 on Developing Leg Strength: Hikers need ankle and leg strength, not support. Weak ankles are caused by walking on too many flat and even surfaces. Instead of wearing boots for more support, a better solution is to both strengthen the lateral muscles and ligaments of ankles and feet and improve balance. The best way to strengthen ankles and legs is to walk and hike on irregular surfaces in lightweight and flexible footwear.

> Critical Evaluation: Hikers need all three things referred to above: foot support, leg strength and balance. Strength can be gained in many ways, not just hiking. How one trains is one thing; what is most effective on a rough trail or off-trail is something else. Boots will only be enhanced by increased balance and leg strength.

Claim #4 on Evolutionary Design:

> Instead of support and stability, footwear should be light and flexible. The theory is that light and flexible shoes capitalize on the natural evolutionary design of the human foot. Getting rid of boots reduces the structure, support and cushioning and promotes a range of motion resembling the natural human stride. This in turn will result in stronger feet, ankles and lower legs. With stronger and more flexible feet and ankles, you will be more stable on uneven terrain.
>
> —Alan Dixon, "Backpacking Barefoot," *Backpackinglight* magazine #5

> Our philosophy is to construct footwear that allows your foot to control the shoe instead of the shoe controlling your foot. Your foot should be able to

> accommodate to the terrain. This allows optimal movement in a three-dimensional plane just like our ancestors had to do. In ancient times there were no flat roads or pavement.
>
> —Wayne Eddy, founder of Inov-8, manufacturer of very lightweight trail shoes (paraphrased)

Critical Evaluation: The logical conclusion from the above thinking is that everyone should, theoretically, hike barefoot or in moccasins to get optimal results. This probably worked well in caveman days, but is totally impractical for contemporary hikers. There are other more practical ways of increasing flexibility, dealing effectively with weak ankles and increasing leg strength.

Claim #5 on Need for Maneuverability: Boots restrict flexibility and mobility much more than alternative footwear. The more rugged the terrain, the more maneuverability we need to avoid obstacles and prevent falls.

Critical Evaluation: This is true only if you are a speed demon or adventure racer. Support and protection are more important in rugged terrain than maneuverability for most hikers.

Claim #6 on Future Deterioration: If boots are successful in providing ankle and foot support, they will often cause deterioration and injuries to other joints; any joint movement problems will be transferred to knees, hips and back.

Critical Evaluation: There is no scientific evidence available to determine the truth of this claim. Aging, genetic makeup and gradual wear and tear will also be likely causes of deterioration and injury. Attributing such ailments to boots is a real stretch.

Claim #7 on Frequency of Injury: Boots do not prevent injuries and sometimes cause them. Wearers of boots suffer ankle and knee sprains and broken legs similar to those suffered while wearing lighter types of hiking footwear.[1]

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[1] Author's Note: My experience supports this claim. Most of my ankle sprains over the years (and I have had several) and even a broken ankle were suffered while wearing hiking or climbing boots. I have not had any problems since switching to lightweight trail shoes. However, it is also true that I switched to using trekking poles at the same time.

Critical Evaluation: Again, there is no scientific evidence available to determine the truth of this claim; I doubt any studies have been done comparing frequency of injury with different types of footwear. More important, the phrase "similar to" does not deal with the issue of frequency. Experience says that wearers of boots will suffer fewer of these types of injuries than wearers of other lighter footwear.

Claim #8 on Boots Causing Injuries: Boots sometimes cause injuries. Boots can cause more serious injuries than their alternatives. Instead of merely stumbling over an obstacle when inattentive, boots can cause falls and tumbles; ankle-top fractures are not unheard of among booted hikers. There are several reasons for this phenomenon:

— the heavier the footwear, the harder it is to accurately place the feet in rough terrain; with boots, the ankle is not flexible enough to place the foot flat when coming down on uneven surfaces;

— with heavier footwear, the slower the reaction time when the brain signals the body to take evasive action;

— boots have a higher profile than alternative footwear, especially in the heel section; a higher profile provides a less stable platform.

Critical Evaluation: What can I say? I am overwhelmed by the number of causes of falling attributed to wearing boots. Next thing you know boots will be said to cause cancer and diabetes. What I can say is that the causes of serious injuries from falling are multiple and that the type of footwear worn would generally be at the bottom of the list. For example, more hikers are using trekking poles for stability. Properly used poles and paying more attention will do more than alternative footwear in preventing falls and serious injuries.

Claim #9 on Avoiding Obstacles: Boots do protect the feet and ankles from puncture and bruising injuries, but alternative footwear helps us avoid obstacles in the first place. An even better solution than boots is to slow down and watch where you are placing your feet.

Critical Evaluation: The last statement is true no matter what you are wearing.

Claim #10 on Energy Expenditure: Most of the above claims and analyses deal with the relationship of footwear to injuries and accidents. For many, the selection of footwear is mostly about comfort and energy conservation. The usual line of argument focuses on the energy expended by weight in the pack compared to that on the feet (usually that a pound on your feet is equivalent to 4-6 pounds on your back). Even if this claim is exaggerated and the scientific evidence weak, the issue is still important. Even if the ratio is only 1 to 3 and the evidence primarily anecdotal, this issue should not be dismissed by the serious hiker and backpacker.[2]

Critical Evaluation: This argument is often made by the fast packers and thru-hikers who cover hundreds if not thousands of miles as well as ultralight backpackers who are obsessed with weight reduction. Most hikers do not fit either of these categories. Energy expenditure is an important consideration in selecting footwear, but there are many other considerations.

Claim #11 on Maintaining Dry Feet: Boots will keep one's feet dry in wet weather, especially if lined with waterproof and breathable material.

Critical Evaluation: This claim about dry feet is true if the precipitation coming down or the wet and muddy trails are just occasional. In continuously wet and muddy conditions, boots will eventually get wet on the inside. Boots will also get damp inside from the perspiration trapped by the waterproof and breathable liners (which seldom breathe enough for those who perspire heavily). Wet boots are extremely difficult to dry out in the field. Trail shoes not lined with waterproof and breathable material will dry rapidly once the trail conditions and weather dries out.

The above claims and critical evaluations are designed to express a wide range of views, many of which are not shared by your author. They are also designed to tease out critical issues on this subject. They are comprehensive and detailed enough to give a reader the big picture on a controversial topic. Maybe there will

[2] See George Cole's article on "Pack Weight" in *Lightweight Backpacking and Camping,* pages 83-85 for a technical analysis of energy expenditure while hiking and climbing.

be a time when scientific studies will resolve most of these claims and counterclaims. In the meantime, consider using the above analyses, along with your own experience and that of others, to make decisions on the best footwear for the types of trips you undertake.

Assumptions About Selecting Footwear for the Wilderness

Part of thinking critically about a subject is to state and evaluate the underlying assumptions. Here are my underlying assumptions on the subject of footwear. Which do you share? What would you add? Which do you question or reject outright?

- Footwear alternatives for hikers are best seen as a continuum from heavy duty climbing boots to light weight running shoes to sandals and moccasins, with lots of options in between.

- Each type of hiking footwear has advantages and disadvantages; each works well under certain conditions; there is no hiking footwear that works well under all conditions faced in the wilderness.

- Each type of hiking footwear works well for some individuals; there is no one solution that will work well for everyone.

- Some hikers like to vary their footwear a lot from one trip to another and from one season to another; some carry two types on the same trip; some wear the same footwear for all trips in all seasons.

- It is good to be flexible and open-minded while experimenting to find out what works best under specific conditions.

- It is also good to logically evaluate competing claims from those claiming expertise.

- Among experienced hikers there are no authorities and lots of individual preferences; you should be your own authority and develop your own preferences.

- There are times when special circumstances or unusual foot problems arise for which you will need to seek professional help.

- When seeking the help of a professional, be very clear about your goals, preferred types of terrain and past experiences.

Personal Experiences and Conclusions on Hiking Footwear

Many experienced hikers have developed strong preferences regarding footwear. I am one who has done a lot of experimenting in the past and will continue to do so. I have experimented with all kinds of footwear on trails and off-trail except for moccasins and going barefoot. This includes heavy climbing boots, high-top hunting boots, trail shoes, running shoes and sport sandals. Each pair of low-cut trail shoes I purchase gets progressively lighter than the previous pair.

I have found sandals to be great around camp, for crossing streams and for providing variety for my tired, booted feet. To my surprise, I have also found that sandals work well on most trails for both day hiking and serious backpacking. As an experiment, I have put in 250-300 miles wearing sandals while carrying 35-45 pound packs. I remember vividly my first experience carrying a heavy pack while challenged to wear sandals—humping our camp on the steep and rough trail from Marmot Lake to Home Sweet Home deep in the Olympic Mountains. I was amazed at how well they worked. All of my preconceptions vanished in this one experience. I would regularly wear sandals on the trail except I have also discovered two things in my experimentation: lightweight trail shoes are just as light as sandals and I can easily replace the standard footbed in the trail shoes with my corrective orthotics.

Over the years, my favorite combination of footwear for backpacking with a heavier pack was a mid-height, medium-weight hiking boot *and* a sport sandal. This preference was based on two things: a weak left ankle from being sprained too many times and a love for off-trail travel. As I have gotten older, my packs have gotten lighter. Taking both boots and sandals is a luxury that is no longer acceptable. My experiments with lightweight trail shoes, as an alternative, have been more than positive. They seem to work well in a variety of conditions including moderate off-trail conditions as well as in cold and wet weather. Both super-lightweight and heavier duty trail shoes are becoming my preferred, but not exclusive, choice of hiking footwear. However, I do not plan to not throw out

either my hiking boots or my sandals; they are still the best option for some trips. As insurance, I am doing more pre-hike conditioning of my ankles and lower legs. I am also using trekking poles for balance and stability. As my feet and ankles get stronger, I will experiment with even lighter and more flexible trail shoes. I have been experimenting using trail shoes with snowshoes. I also plan to experiment with thin, lightweight racing flats developed for runners. Who knows, I might give moccasins or other minimal footwear (e.g., Vibram Five-Fingers) and maybe even bare feet a try one of these days.

A final and more philosophical note on the subject of footwear. In our culture, we tend to live mostly in boxes. Most of us live, learn, work, drive, walk and recreate in box-like structures. We are usually born in a box (i.e., house or hospital) and often prefer to be buried in a box. I suspect that these boxes give us a heightened sense of comfort and security in an insecure world. Putting heavier boots on our feet is an extension of this same mentality. The more time I spend in the backcountry wilderness areas, the more I want to think "outside the box" and extricate myself from "cultural boxes" of various kinds. My selection of hiking footwear is an extension of this same "get out of the box" philosophy.

Gaiters as Part of a Footwear System

Regarding gaiters (yes, they can be an important part of one's footwear system), I have experimented with several kinds of gaiters (long, short, mid-height, waterproof, breathable, waterproof and breathable). From this experimenting I have come to the following conclusions:

— I generally go without gaiters most of the time, but often have a light pair (1-2 ounces) in my pack to put on if conditions change.

— Instead of gaiters, I buy my pants long which means there is little chance for debris to get inside my footwear.

— When I wear shorts, I find that little debris gets into my shoes, but my feet and socks can get quite dusty. But washing feet and socks when the opportunity presents itself provides a good break from hiking and can feel very refreshing. It also great for tired feet.

— Waterproof and breathable gaiters are generally not (not breathable enough). My feet sweat a lot and my pants and socks can get quite wet from heavy exercise.

— If I know I will need gaiters later in the day (e.g., getting into deep snow or wading through wet brush), I wait to put them on until really needed.

— If it is raining heavily, it works better to put my rain pants on over my gaiters.

Additional Issues for Reflection

1. Minimalizing Footwear: Is the philosophy of selecting hiking footwear by "taking away until it is obviously too much and then adding back a bit" a good strategy to meet the objectives of most hikers? Is a good corollary of this philosophy to own several pairs of hiking footwear in order to have different options to experiment with for different types of trips?

2. Height of Boot: What is the optimum boot height? How much correlation is there between height, stability and support?

3. Insoles and Orthotics: How important are quality insoles or orthotics to maximizing the stability of any boot or shoe? How important is a raised pad just behind the ball of the foot (sometimes referred to as a "metatarsal arch support") in spreading out the metatarsal bones in the front of the foot for increased stability?

4. Trail Shoes in All Seasons: What about low-cut trail shoes for all seasons? Is some combination of vapor barrier liners, gaiters, thick socks, waterproof and breathable socks used in conjunction with trail shoes satisfactory for winter use and travel in the snow?

5. Trail Shoes in Wet Conditions: Is it best to buy trail shoes and boots with waterproof and breathable linings (e.g., Goretex or eVent), especially if hiking in wet conditions? How useful are waterproof and breathable socks? What about using special hydrophobic foot cream in wet conditions? What about fording streams with shoes on but socks off? What about rubberized boots (e.g., "Shoepacs")?

6. Footwear, Joints and Older Age: Is it likely that high mileage hikers and backpackers, wearing lightweight footwear, day after day, will have more problems in older age with their joints than other hikers (somewhat like runner's knees)?

7. Lightweight Footwear and Heavier Packs: What is the upper pack weight limit for using lightweight footwear? Is it a good idea to carry heavier packs (30 pounds or more) while wearing lightweight running shoes, sandals or moccasins? What is the probability of problems showing up only in older age from such practices?

8. Barefoot: What are the long-term consequences, if any, of going barefoot much of the time, whether on the trail or at home?