Issue 46

Science and Athletic Records

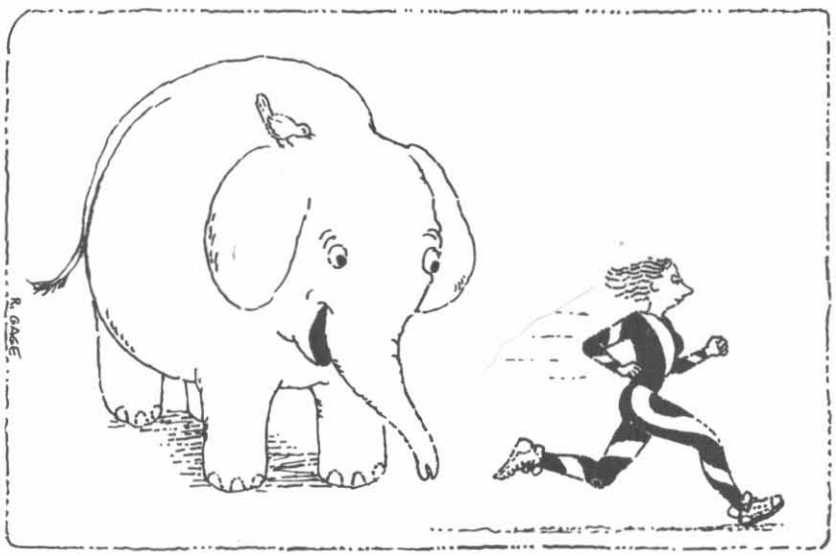
The laws of science have always had a lot to do with athletics. The understanding of those laws continues to result in improved performances and steadily broken world records. Consider the idea of force. The study of how forces act makes it clear that:

— the dimples on a golf ball make it travel more than 4 times farther than if it were smooth.
— a running track with a springy surface about twice as stiff as a runner's legs is the ideal for improving speed.
— the best path for a swimmer's hand through the water is an S-curve, not a straight line.
— the best way to keep an Indy-500 race car firmly on the track is with the help of stubby boxes shaped like airplane wings turned upside down.
— ski jumpers travel farther if they stretch their bodies low over their skis to gain lift like an airplane wing.
— floor oil on the first 3 or 5 meters (10 or 15 feet) of a bowling alley reduces the force of friction and so preserves the ball's spin until it is close to the pins, thus improving the bowler's control.
— a properly shaped and thrown boomerang can stay in the air as long as 33 seconds (world record).
— tennis racquets made of graphite, which is 10 times stiffer than wood, result in more powerful shots; Fiberglas poles resulted in an immediate increase of 23 centimeters (9 inches) in the world's pole-vaulting record.
— skin-tight clothing that reduces a runner's air resistance can mean a difference of as much as 10 centimeters (4 inches) in the 100-meter dash and 27 meters (30 yards) in a marathon. It improves a cyclist's performance too.

Compare the structure of the human body with that of (a) an antelope for speed, (b) an elephant for carrying weight, (c) a bird for flying, and (d) a monkey for climbing. Each of these four-limbed animals is superior to us in a very specific way. Being so badly outclassed by them, how is it that humans are the most successful large animal on earth?

Further use of the various laws of physics, chemistry, and biology continues to push human performance to still greater limits.

Think about this . . . *Where is the best area in your state on which to "go back to the land," raising your own food, living simply, and becoming as nearly independent as possible from the tools, amusements, and energy sources of twentieth-century America? If the pioneers did it, couldn't you do it today?*



"Birdie, do you think that if I had a suit and shoes like hers, my chances of survival would improve?"