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Photos Courtesy of Author

ACCURATE HUNTER

TRICKS OF LIGHT

Under certain conditions, I enjoy hunting with iron sights, which parallels using archery tackle, handguns, and muzzleloaders: You're consciously surrendering range and losing critical first- and last-light capability.

If you can't see, you definitely can't shoot. The other day, my friend, Johan Klehs, shot a nice hog jut after sunset with his well-scoped McMillan .308. Unusually, the herd ran a short distance and started feeding. My turn! I was carrying a Savage 99 with aperture sight and, although legal shooting time remained, there wasn't enough light to see the sights. With a scope, I'd have sausage in the freezer!

We call optical brightness "gathering light" but there is only so much light, so it's really "light transmission" or "light management." Quality of lenses is important, but so are lens coatings—and size does matter. If quality of glass, coatings, and construction are equal, then a larger objective lens will transmit more light. A larger-diameter tube also transmits more light. The American standard has long been a one-inch (about 26mm) scope tube; the European standard is 30mm. Again, all else equal, a 30mm scope will be brighter than a 1-inch scope. Increasingly common are scopes with 34mm (and larger) tubes.

By now we're running out of light to transmit, but the larger tubes are brighter. However, they are heavier, bulkier and more difficult to mount. There are trade-offs. Large objectives and bigger tubes originated in Europe, where our concept of "legal shooting hours" is virtually unknown! Grudgingly, I have slowly gravitated to 30mm tubes, primarily because this is now the tube diameter of our best scopes. But it depends on what you're doing. In mountain hunting, last-light shots are rare because you must get off the mountain—or stay there. Some of my versatile flat-shooting rifles still wear scopes with one-inch tubes because they're lighter, smaller and can be mounted lower!

Boddington was within minutes of running out of light when he shot this California wild hog with a Savage 99 in .300 Savage with aperture sight. Aperture sights manage light better than open sights, but no comparison to the poor-light visibility offered by modern optics.





An Aimpoint Hunter sight on a Montana Rifle .375. Although absent magnification, the reflex or “red-dot” sight is superb at closer ranges, allowing much more precise shooting in poor light than is possible with iron sights.

Good optics don't lie... but our eyes might!

Magnification is a different issue. In a time when variable-power scopes weren't yet perfected, my heroes like John Batten and Jack O'Connor used tiny little scopes that now seem primitive—and believed 4X was plenty. Until recently, so did a few of my colleagues, but I haven't heard that argument lately. I make no bones: I like magnification! A larger image instills confidence and, I believe, is conducive to better shot placement. That larger image through the scope also offers a last-second sanity check for presentation and clear target.

I started hunting with a fixed 4X, so my first 3-9X was a revelation! Back then, “three-times-zoom” was state-of-the-art, but today we have six and even eight-times zoom, offering marvelous capability within a single scope, from low (or no) magnification up to very high. Today I'm using—and enjoying—scopes with much higher top-end magnification than I ever thought I would use: 2-12X, 4-16X, 3-18X.

I'm not suggesting an upper limit but for a hunting scope I want a low setting no

higher than 4X...and that's where I leave it unless I want more for a specific shot. Variables with high magnification cost more, weigh more and are bulkier. There's no sense paying for—or carrying—magnification you don't need. It's sort of like the current insurance slogan: “Only pay for what you need.”

I have a couple of Leupold's VX6 3-18s, and I love them, but I'm not going to shoot game so far away that I really need 18X magnification. Other rifles still wear 3-9X and 3.5-10X scopes, and there's nothing I want to do that can't be done with them. Raw magnification is probably over-rated and useless without clarity of image. In situations where I know the shots will be close, such as black bear, wild hogs, and some African situations, I often use a reflex (red dot) non-magnifying sight. The light management of an optical lens is still there, even without magnification. I love my iron sights, but I can see better with a reflex sight—and shoot farther and in worse light than is possible with irons.



This 2.75X Bear Cub scope (on an awesome Griffin & Howe Springfield) was a popular, state-of-the-art scope in about 1960. Optics have come a long way since then; even Jack O'Connor might embrace today's awesome variable-power riflescopes.

Regardless of what scope or sight you choose, and how much magnification you use, it's still your eye that does the seeing, interpreted by your brain. The hard part is making sure your eye and your brain are telling you the truth.

Years ago, I was hunting coastal deer with Durwood Hollis and Todd Smith (later editor of *Outdoor Life*). I climbed up to a high saddle early, and the other guys were going to work up from the bottom at daylight. The sun was bright when a buck strolled up a grassy slope a hundred yards below me. I took the shot, and the deer fell backwards out of sight.

Certain of the shot, I waited a while, then clearly saw another buck coming toward me on the same trail. I looked again and saw Todd's head, the spookiest sensation I've ever had on a hunt. I clearly saw the top of a buck's

head...and then it was Todd's head. Although he'd heard my shot, Todd hadn't seen my buck lying a few yards below him. What had I seen?

We experienced hunters have a hard time understanding how hunting accidents can happen, so I've never forgotten that weird incident. Interestingly, California does not require blaze orange, relying instead on universal hunter education, which apparently works, because accident occurrence is almost nil. Still, a blaze orange hat might have spared me confused moments.

Or maybe not! Light and angles do funny things. Visual acuity and quality of optics help, but while the eye, whether aided by optics or not, sees what it sees, the brain has a tendency to interpret what it wants to see, not always what is really there.

Bowhunters tend to

look for a quartering-away shot, while gun hunters prefer a full-on broadside presentation. No matter. I believe that most shots that are a little bit too far back—or forward—are not aiming errors, but failure to visualize how the animal was really standing. Shadows, harsh light, and vegetation all play tricks.

Here's a clue: On a stationary animal that is fully broadside you can only see one foreleg. If you can see both forelegs, then the animal is probably not broadside, especially if standing still. If walking, you may see both forelegs, but it doesn't matter. If you can see both forelegs, then there will be a triangle of light between them, apex upward. "Divide the light" between the forelegs, follow that apex of the triangle one-third up into the body, and your bullet will land in the chest cavity every time!

Grass or low brush up to the belly-line (or above) is another common problem that confuses the eye. Technically, you can (usually) shoot through a light screen that's just in front of the animal. More tricks of light: Can you tell if the obstruction is close to the animal or a few yards in front? And are you sure it's just grass—or bullet-eating branches? Most of us are reluctant to shoot unless the animal is perfectly clear, and that's wise. But visually, if there's vegetation obscuring any of the lower body, then we don't have the full body to shoot at—and not as much as we think we do!

The proper aiming point on any quadruped is one-third up from the brisket-belly line, either on or just behind the shoulder. Halfway up is generally okay, but above

that is asking for trouble, into that "no man's land" at the top of the lungs. If the lower part of the body is obscured, and it often is, then the natural tendency is to hold a bit too high on what you can see. Even if you can't see it, you must visualize the whole animal and see if enough is visible for a proper shot.

Over the years, I've learned that dark animals play some of Nature's most vexing tricks of light, especially when combined with dark shadows. Dark animals that I have much experience with include African buffalo, boars, buffalo or moose. There's something about dark animals that confound the human eye.

It isn't so much a matter of seeing to shoot, but seeing well enough to shoot in the right place. Dark animals appear huge in a scope reticle—a big, dark mass. Can't possibly miss. Nope, probably can't... but that's the problem. Most of the dark animals I'm familiar with are large and tough, so hitting them in the right place is what really matters.

The trick is to forget the large mass and aim specifically at the correct spot. Part of the problem is that our traditionally black scope reticles get lost. In poor light, they may disappear altogether—just a few minutes after iron sights became useless. Illuminated reticles or red-dot sights help immensely. They're always centered, so you don't have to search for the lost intersection. But you still must put that red dot in the right place, one-third up from the brisket-belly line, ignoring the huge, dark mass. ■



TOP: A slow dawn over a frozen slough in Alberta is still dark, but long after "legal shooting." The best optics cannot create more light, but they can manage available light and enable much clearer vision at dawn and dusk. **MIDDLE:** Glassing should be done with binocular and spotting scope, but scope magnification allows one last sanity check: Is the shot clear? Just how many cows must move aside before this fine bull is clear? **BOTTOM:** A Leupold VX6 3-18x44mm scope on a Weatherby Accumark in 6.5-.300. Although relatively compact for its magnification, this is the largest and most powerful scope Boddington has on a hunting rifle.