What’s Up?

Missing

No, not missing the animal, but missing the forest or, more specifically, the metaphorical trees. I’ll start at the beginning.

It was a very long time ago, in a land far far away—actually Eastern Montana, which is far enough. We’d come to hunt deer, with permission, on a private ranch: John, me and our friend Dave. Dave was the guest, so he had first dibs, but the place was loaded with deer. We’d already passed up several mule deer bucks, and it was still early on the first day.

Personally I was glad Dave had first choice. This was long enough ago that I was just beginning to get over my new-hunter twitchy trigger finger. Oh the finger was accurate—and steady enough—just couldn’t keep it off the trigger. So being second in line, at best, perhaps would encourage that incipient desire for bigger things. And patience.

It was mid-morning when we spotted yet another mule deer buck in the distance and decided he might be big enough to require a closer look. We bailed out of the pickup, rifles, binos, spotting scopes in hand and headed across a piece of sage brush flat, keeping a rather pointy-headed butte between us and the buck.

The terrain was typical dry country: flat, interspersed with buttes, flat ridges and the occasional dry, sage-choked creek beds meandering through the landscape. These dry creeks are handy for stalking, but always not quite deep enough to actually stand up while utilizing them. Typically shoulder height to my 5’8” frame, you had to scrunch down to walk, all the while trying not to trip over the roots and branches, as well as skeletons of meals long past. On one stalk in a similar dry creek we’d come upon a perfectly pristine bunny tail. Just the tail. And nothing else. Not even a little blood.

But this day we were lucky. No stooping walk, no roots to trip over, just a pointy-headed butte to climb. Getting down on hands and knees toward the top, we peeked over to see where our buck had gone in the half hour or so it had taken to get there. Luck—and the wind—were with us: neither had changed much.

At 200+ yards, we glassed, but decided we needed to set up the spotting scope. John looked first, and then rolled to the side to give Dave a look.

“He’s pretty tall, but not much mass,” John said. “And he’s a 3 by 3.”

Dave looked through the spotting scope. “It would be cheaper not to kill a trophy,” he said. And he and John went back and forth on the last 20 years of taxidermy bills as I grew restless—and bored. What was the problem? You either shoot or don’t shoot, I thought. Make up your mind!

I gave the buck another once over through my binoculars, then began to glass the rest of the landscape.

West of us, to the right, 5 to 600 yards away a line of brush hugged the foot of a deeply eroded sandstone ridge that ran north-south several miles. In front of us the flats continued, and stretched for miles both east and south of us, probably to North Dakota and Wyoming, respectively, with a few barbed wire fences to catch tumbleweeds that blew constantly across the open range.

But right below us, at the foot of this butte, a dry creek bed stretched as far as I could see. It was choked with brush, mostly sage, but also rabbit brush and the occasional wild rose. I wondered how many bunny tails were hidden in the tangled roots as I glassed the twists and turns of the creekbed. Maybe lots, but nothing moved. Nothing alive. Certainly nothing bigger than a breadbox.

I turned my attention to John and Dave, who were now talking about the finer points of the Gentry .280 I’d borrowed from John for this hunt. At the time my ‘regular’ rifle was a Browning A-Bolt, which I loved for the detachable magazine. In late November, in the cold, it was so
much easier to just drop a loaded magazine in the action, rather than having to handle individual cartridges, one by one. The Gentry didn't have the detachable magazine, but it was still October, fairly warm, and it was lighter than the .270, and with plains hunting you carry the rifle a lot longer than you shoot it. Or load it. A year later I'd have my first NULA, also a .270. But that was a year later.

“So, Dave,” I said, trying not to let my impatience show. He was, after all, our guest. “Are you passing?”

“Yes, I am. Would you like him?”

“Let me look through the scope,” I said, pretending to be more discriminating than I felt. I thought I heard John snicker, ever so softly, but I ignored him.

Once more we crawled around the sandstone butte, switching places so I could take a turn at the scope.

“Yes,” I said. “I think I’ll take him. Are you guys going to stay put?”

They agreed they’d stay, and I rolled away from the spotting scope. Rifle ready, on top of my hunting pack, I stretched out as comfortably as I could, set my elbows, and looked through the scope. The 3 by 3 buck was still grazing, broadside, now a little more than 250 yards away. I rested the crosshairs on his chest, let my breath out, and pulled the trigger.

“There’s a buck,” I said. “That’s not my buck running. Holy cow! Two bucks running.” It was patently clear neither was my little 3x3—they were huge--so I sat up to make sure my buck was down and dead.

“Yes,” John said, my buck had gone down without a twitch. The two big bucks—both at least 4x4’s, both with lots of mass and length—had jumped up from the dry creekbed, almost from under our noses, and while the huge muley buck broke into hyper-drive on his way to Mexico, the whitetail streaked into the brush west of us. No spotting today or looking for where the danger lay—both bucks flat out moved. “Crap!” I yelled.

“My thought exactly,” Dave echoed.

“A whitetail and a muley bedded down together. What are the chances? And never moved a muscle the whole time we were climbing up here, and setting up the scope, and chatting about who’s going to shoot little Tommy Three-Point. Weird.”

A few years later, in a parallel universe, I overcompensated. We were hunting the mountains east of our home, again with a friend, and our friend had first dibs. Again. We'd walked up a closed logging road 45 minutes or so, when we came to a clearcut the dirt road bisected—and that had been a good place before to spot game. We slowed down and approached it slowly, glassing, then moving a step or two, then glassing again. We were rewarded for our caution. A little herd of mule deer does and fawns grazed across the hillside above us. And a buck—a bigger 3x3 than in Eastern MT, was with them. We had stopped by a huge upturned tree, and used it to get a better look at the buck we knew was there, and to see if his bigger brother was lurking in the background.

The clearcut ran a long way vertically, but wasn’t very wide, so we could glass both the near and far edges above and below us where the new growth met the older pine and spruce trees. As John and I glassed, our guest, Rich, murmured, “I can't see him.”

I was closer to Rich, so slid toward him, and turned his head a bit more to the right. He shook his head. I got directly behind and realized he was looking low, and once again adjusted his angle. “I still can’t see him,” Rich said.

“A hundred fifty yards up,” I whispered. “Six does, stringing left to right smack in the middle of the cut—the buck’s just to the right of the furthest doe and three or four steps higher.”

Again, Rich said “I can’t see him.” By now the does were edgily stamping their feet and moving further up and toward the cover. The buck was just standing still, as they do sometimes.

John whispered, “Get ready Eileen. If he starts moving with the does, take him.” I had my rifle up and a good rest in seconds, and then the does picked up speed—the buck still standing flat-footed though the light was dawning. He was still broadside but angling uphill, so I held on his chest, in line with the off leg, and shot. With my bare eyes I saw them run uphill and right, and as I recovered from the .270’s recoil, and picked up the buck again in my sights, I saw him—again broadside just steps from the cover taking a second to look back. I shot and he went down. Good, I thought, no big search, I thought, but then John yelled, “What the hell are you shooting at?”

“The buck,” I said. “He was about to slip into the woods.”

“Your buck is dead. He went down immediately. That was a doe.”

Luckily I’d killed both cleanly, and more to the point, had a doe tag in my pocket as well as one for the buck. As we climbed the clearcut, I realized just how much the dead branches in that first edge of pine trees had fooled me: they were just high enough, just angled enough, and just the right color.

And just as clearly I saw it was just as easy to mistake branches for real antlers as it was to not see two sets of antlers as well as two huge bodies—one muley and one whitetail—with a lot more mass and height than this eating buck. It makes you start to wonder what else we’re missing.

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Behind me the E. Montana pointy-headed butte I shot from. In my hands the nice little eating 3x3. Not shown, the two big bucks that totally escaped our glassing and ignored our kibitzing for 20 minutes or more, then ran at the shot. And of course there’s the Gentry .280.

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Good Eats

Wild Brats
Makes 1½ pounds

If you got lucky enough to kill a sweet tasting bear this spring, or just have some extra meat in the freezer, this little brat will work on both. If bear, feel free to substitute bear fat for beef fat. (Unlike deer, elk and antelope, good bear fat tastes good.) And also feel free not to case it (though for really good texture, it pays to do the freeing/mixing steps*). Brat patties and scrambled eggs are a great breakfast. There are lots more sausages and more on the science of sausage texture, in Sausage Season.

Ingredients
1 pound ground wild red meat
½ pound ground beef fat
2 bay leaves, broken into little pieces
¼ cup beef bouillon
4 cloves garlic, minced (about 2 loosely packed level tablespoons)
1 teaspoon dry mustard
1 teaspoon dried leaf thyme
1 teaspoon white sugar
1 ½ teaspoons non-iodized salt
½ teaspoon white pepper
½ teaspoon red pepper flakes

Prep
1. Combine the lean meat and fat in a large bowl. Crush the bay leaf with your fingers, add it to the meat with the bouillon, minced garlic, dry mustard, thyme, sugar, salt, white pepper and red pepper flakes. Mix thoroughly. Seal in a re-sealable gallon-sized bag and refrigerate 8-24 hours before tasting to let the flavors fully develop.

2. To taste test: microwave a ½-inch ball of sausage in a coffee cup 15-20 seconds on high.

For Really Good Texture
Now, it’s essential to freeze and mix the mixture for cased sausage, as below, but for patties you can get by. Thing is, you’ll get a lot better pattie texture if you do the freezing and mixing for it, too. Once prepped, cook the patties in a skillet until all the pink is gone; cased sausage can be cooked in a 350°F oven for 30 minutes in a foil-lined baking pan or on a grill for about 10-12 minutes, indirectly, 350-400°F until the sausage reaches 165°F internal temp. Here’s the mixing details:

Prepare your hog casings; I prefer brined ‘home packs’ to the dry salt variety. Press the sausage out in the plastic bag until it’s all the same thickness. Freeze (2 hours in a chest freezer) until it’s 28°F and ice crystals form inside the bag. Break up the sausage into a mixer (a KitchenAid Classic is the perfect shape and size for 1½-3 pounds), and mix on low, 6 minutes, until the sausage has formed a fairly tight ball. (I always set a timer. Six minutes can be forever. But when done, you should be able to grasp all 1½ pounds in one hand, turn it upside down, and have it hang there without pieces dropping off.) Load your casings on the stuffing tube and case. Arrange them on cooling racks in the fridge and let them air dry for 8 to 24 hours before packing and freezing--or cooking.

Game Care Notes
Making Sausage--The Science Part

There’s an old kitchen saying that ‘cooking’ is art, but baking is science, and it’s true. But if you think sausage making is ‘cooking’ you’ve only got the half of it. Yes, it’s an art choosing which and how much spice to add, but you don’t get the sausage texture without a bit of science. Bio-chemistry, in fact.

It starts with 24 hours of salt—which breaks down the proteins in the meat. Then temperature comes in. It may not seem like it but sausage can ‘break’ much like hollandaise sauce. And while many of us don’t give a fig about hollandaise sauce, we do about sausage. What is ‘breaking’? Temperature. The point in sausage and hollandaise is that, mixed at the right temperature, ingredients that don’t ordinarily mix well, do; but once mixed can be separated again if the temperature is too warm. In hollandaise, the eggs scramble rather than become a creamy sauce; in sausage, breaking returns the bonded lean and fat to crumbs—rather like unfatted burger.

So mix the salt and other seasonings into the meat/fat mixture then let it sit for 24 hours. I use gallon sized re-sealable bags, so I can spread the sausage evenly in the bag for the next part: in the freezer until it’s 28°F, 2 hours in my chest freezer. Once at 28, break up the sausage into a mixer and mix 6 minutes on low or just a click more, until the mixture looks like a wasp’s nest stuck around the beater. But the temperature. Take too long getting the 28°F meat into the mixer, or too warm an ambient air temperature when doing it (thus why I named my sausage making book Sausage Season—which is definitely not summer, even in Montana) and that wasp’s nest will fall apart again—and you’ll have crumbly, not bonded, sausage.

Having said that, I can tell you from experience you can get things too cold as well.

As an experiment, I once made sausage on a reasonably warm winter’s day: outside air temp was about 34°F. I have a window in my pantry, so opened it, closed off the entrance, and let the room chill. I also chilled the mixing bowl, paddle/blade, and utensils, placing them in the chest freezer with the sausage mix.
Maple Bacon (or not) Crackle Cookies
Makes 6 dozen cookies

With apologies to my friend Bob who, though he was born in Vermont, doesn’t like maple syrup. But maybe he’ll change his mind if there’s bacon. FYI, I like the cookie both with and without bacon; John prefers it with. Not that I don’t like bacon, it’s just a really good maple sugar cookie, too.

Ingredients
1 cup butter or margarine, softened
1 cup brown sugar
1 cup maple syrup
1 egg
1 teaspoon vanilla
3 1/2 cups white flour
1/4 cup powdered buttermilk*
2 teaspoons baking soda
1/2 teaspoon salt
2 1/2 tablespoons Hormel Real Bacon Bits
White sugar to roll the cookies in

Cooking
1. Combine the butter and brown sugar in a bowl and mix with an electric mixer until they’re a bit fluffier (about 3-4 minutes, on medium speed).
2. Add the maple syrup, egg and vanilla and mix well. Stir the flour, buttermilk powder, baking soda and salt in a separate bowl, then add to the butter/sugar mixture with the bacon bits if you’re using them. Beat until blended. Cover and chill 1-2 hours (for easier handling).
3. Preheat the oven to 350°F. Pour 1/4 cup of white sugar onto a plate and, after you roll the batter into 1-inch balls between your palms, roll them in the sugar (it’s the sugar that makes the surface crackle), and place on a parchment lined cookie sheet. Bake 10 minutes, let cool and enjoy!

*Even our local Thriftway carries powdered buttermilk. It’s down at ankle level amongst the sweetened condensed milk cans. Why use it? It adds a creaminess to the flavor and more snap to the crackle. Never a bad thing.
Rifle Loony Lit

The Scout Rifle Study by Richard Mann
(2018, Ramworks Inc., softcover, 224 pages, $50)

Subtitled “The History of the Scout Rifle and Its Place in the 21st Century,” this started as an ongoing Internet publication on Richard Mann’s blog-site, empty-cases.com, adding new chapters as his research (including plenty of hunting with various scout rifles) continued. Eventually, however, he figured enough was enough, and published a printed book.

The book includes the history of the Scout Rifle from the earliest articles by its conceptual father, Jeff Cooper, to its latest offshoots (if you’ll pardon the term). Early on Mann confesses some ambivalence about the Scout concept, but has now built so many, and taken so much big game with them, both in North America and Africa, that he definitely knows their advantages and disadvantages.

I am also ambivalent about the Scout concept, because like many hunters today there’s always another specialized rifle to buy, scope, handload for, and use for limited purposes—even a single purpose. The Scout concept is very different, involving (as Cooper pointed out) a rifle for general, unspecified purposes, handy and flexible enough to be useful in almost any situation.

After reading the ever-growing on-line version of The Scout Rifle Study, I also realized that even if I never owned or used a Scout rifle, I was learning far more about hunting rifles to liven up the learning.

The book is 8.5x11″, 224 pages, with lots and lots of color photos. Available on Amazon.com ($45 plus shipping, not autographed) and Richard’s blog: empty-cases.com/blog/ ($50, media rate shipping included, and autographed. It will prompt you to log onto Paypal, but once you do, you can use any credit card to pay.)

http://empty-cases.com/blog/the-scout-rifle-study-2/

What’s Next?

Our next issue is August 2018. As soon as I get this May issue out I have a bit of housecleaning to do. One RLN subscriber noticed that one issue of RLN was incomplete; then another. Apparently when we switched servers last November, we lost some pages. So I’ll be going through the archive and correcting that.

In the meantime, I’m working on the jerky cookbook. So far I have 60+ recipes, including whiskey and beer jerkies, barbecue, Mexican, Italian, Polish and German jerkies, both in ground meat and sliced, and deer, bear, antelope, elk and turkey. And I’m waiting for John to turn over his manuscript of Gun Gack 2 so I can edit it, and get it into printing shape. John tells me he’s choosing photos now, and I’ll have it soon, so by the August RLN, I should have a pretty definite idea when the book possibly, maybe will be almost ready to ship.

Any questions or suggestions? www.riflesandrecipes.com. Click on the ‘contact us’ tab, and your e-mail will come straight to us. EC

Seeimg Is Believing

Burris Signature HD 8x42

While a bunch of really good and relatively inexpensive binoculars have appeared during the last decade, I was still surprised by the new Burris Signature HD when using an 8x42 on a hunt in Texas last fall. Part of the surprise was due to the previous Burris Signature binoculars, discontinued not too many years after their introduction. The reason they disappeared was pretty simple: While okay, they weren’t outstanding in any way when compared to other binoculars in their price-class. But this time Burris really got it right.

The HD Signatures are made by one of the top two optics companies of Japan, and it shows. The optical quality is about as good as it gets for the $400 price-range, in fact so close to my Leica 8+12x42 Duovids set on 8x that I’d have a hard time choosing which one to use—except for a major factor in favor of the Burris, weight.

A direct comparison to the 8+12x42 Duovid is actually unfair, since the extra lenses necessary for changing magnification bring its weight to 37 ounces—but the 8x42 Swarovski SLC, regarded as a nice, light glass, weighs 29 ounces. The 8x42 Signature HD weighs 23.2 ounces, due to “fiber-reinforced polymer” housings on an aluminum frame. A few other 8x42’s are as light, but the Burris’s synthetic is more resistant to temperature and dents than lightweight metals like magnesium. The Signature HD’s also a dual-bridge design, with the bridges near the opposite ends of the barrels, stronger than the short, single-bridge used on other lightweight 8x42’s.

Signature HD binoculars are also available in 10x42 and 12x50—and the 10x42 weighs exactly the same as the 8x42, and the 12x50 only 24.5 ounces. All three can be found on the Internet for the same price, $399.

www.burrisoptics.com  970-356-1670

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Pressures with Different Bullets

While some handloaders realize various bullets of the same weight and diameter produce varying pressures, many assume loading data for, say, 180-grain .30-caliber bullets can be safely used with ALL 180-grain .30’s. Some of this assumption occurred due to older loading manuals, which often simply stated “180-grain bullets” instead of specifying exactly which bullet, or even lumped bullets of slightly varying weights together. Into the early 1990’s Hodgdon listed the same data for 154-162 grain bullets in 7mm cartridges from the 7mm-08 Remington to 7mm Weatherby Magnum. Back then some justification existed for such “bullet anonymity.” Most centerfire rifle bullets had relatively thin jackets made of the mild brass called gilding metal, swaged around a lead-alloy core containing about 3-4% antimony.

Plus, the copper-crusher method was still the industry standard for pressure-testing. Now, properly used, the CUP (Copper Units of Pressure) system is pretty accurate, but involves precise measurement of how much a short copper cylinder gets compressed during firing. Along with several other measurements, this requires calibrating that particular batch of copper cylinders, but even when performed carefully the copper compression (and resulting pressure-reading) isn’t as precise as electronic testing. Between similarly constructed bullets and copper-crusher pressures, there usually wasn’t enough difference in CUP to bother with listing data for each specific bullet—partly because very few handloaders owned chronographs, allowing them to actually “see” pressure differences revealed by velocity.

Today, however, we have a far wider array of bullets. Some have pure copper jackets, or gilding-metal jackets annealed when the bullets are heated to bond the core. Both result in higher pressures, due to the softer, “grabbier” jackets. We also have monolithic bullets without lead cores, made of gilding metal or pure copper. They’re not only longer than cup-and-cores of the same weight and diameter, resulting in more friction when traveling down the bore, but often have grooves of varying numbers and widths to reduce the friction.

We even have the good old Nosler Partition, introduced in 1948. Despite essentially being fancy cup-and-cores, Partitions also tend to result in higher pressures, especially when loaded to maximum pressures, when the rear, exposed core tends to “bump up” in diameter. This can produce finer accuracy, but also a noticeable rise in pressure and velocity.

All of this is why it’s not smart to assume a powder charge that’s safe with a cup-and-core is also safe with a premium bullet of the same weight and diameter, as a friend assumed a number of years ago. He’d previously owned a chronograph, but eventually the chronograph died and he didn’t bother replacing it, because he knew the velocity of most of his loads by then—except for his new .270 Weatherby.

Of course, he wanted all the velocity possible, because that’s what Weatherbys are all about. He looked up the highest-velocity data for 130-grain bullets in his Hornady manual, and loaded some 130 Spire Points. He tried them on the 100-yard range on his 6-acre country estate, and they shot well. He’d worked up to the maximum charge, so put together some more ammo with 130-grain Nosler Partitions, using the same charge.

I’m welcome to use his range, and was testing loads for several rifles when he showed up after work one day. Since my chronograph was already set up, he asked if he could use it to test some .270 Weatherby loads, and of course I said sure. He first tried the 130-grain Hornadys, and they chronographed just about what his Hornady manual suggested, around 3400 fps.

Then he shot three Partition loads. Velocity averaged around 3600 fps, and on the last round the primer leaked a little black soot from one side. He asked me why the primer leaked, more concerned about that than the velocity. I explained about Partitions producing higher pressures, and calculated how much he’d have to reduce the powder charge to get 3400 fps. He went inside to do his loading bench while I tested some more of my rifles, then tested his reduced-charge ammo—which did chronograph around 3400—with no leaky primers. His manual, by the way, was Volume II, published in 1973, and this incident occurred in the 1990’s. I’ve run into a number of other handloaders who haven’t updated their manuals in many years. Hey, the data was valid then, so why wouldn’t it be now?

Well, gee, when the Hornady Handbook of Cartridge Reloading Vol. II appeared, there was only one 4381—which is how the manual listed it, with no H or IMR in front of the numbers. (Some handloaders use their manuals even longer. In 2017 I received a “fan” letter from a guy even older than me, telling me how little I knew. He’d been using the same Speer manual since the 1950’s, because his father told him it was by far the best.) Luckily my friend used the 1973-correct 4831 in his .270 Weatherby, because somebody gave him around 25 pounds of the old mil-surp 4831, used in 20mm cannons during World War II.

However, since 1973, three other 4831’s have appeared, IMR4831 and two “newly-manufactured” versions of H4831. I wonder what kind of velocities he’d have gotten from one of those 4831’s?

I’ve mentioned the potential for wide variations in pressures with different bullets several times over the past 20 years. Eventually some readers urged me to produce a chart showing the different pressure levels from various bullets. Unfortunately, that’s impossible, because even the “same” bullets, whether Hornady Interlocks, Nosler Partitions, Barnes TSX’s or any other brand and type, also produce different pressures, depending on their weight and caliber, and even other factors.

During one of my periodic visits to the pressure lab at Western Powders in Miles City, Montana, I had yet...
another interesting conversation with Keith Anderson, who's worked in the lab longer than anybody else. I mentioned finding Hornady Interlocks usually produced lower velocities than other bullets of the same weight and diameter. I wondered if he'd observed lower pressures with Interlocks on their piezo equipment.

“Yeah, I have,” Keith said. “But the lowest-pressure bullets these days are Barnes TSX’s, especially light-for-caliber models because they have the fewest driving bands.”

At the time TSX’s were still relatively new, so I hadn’t chronographed nearly as many TSX’s as Hornady Interlocks. So I nodded and said, “That makes sense!” Afterwards, of course, my own chronographing showed the same pattern.

Seating depth also affects pressure/velocity, or the length of your rifle’s throat. With progressive-burning rifle powders, pressure drops the further bullets are seated from the lands—until they’re seated MUCH deeper, in the neighborhood of half an inch from the lands, pressure starts to rise because of the smaller “combustion chamber.” Very few handloaders, however, seat bullets that deep, because the ogive ends up well below the case mouth.

So no, I can’t produce a list rating which bullets produce the least and most pressure. but thanks to the Internet, we can often get a good idea from on-line loading data, particularly from two companies, Western Powders and Hodgdon. Both list the pressures of both starting and maximum loads, often with different bullets of the same weight and diameter. Western tends to list more bullets than Hodgdon, so I usually visit their site first. Here’s an example from the Western’s data for Ramshot Hunter in the .30-06 with various 180-grain bullets, using a 24-inch test barrel:

<table>
<thead>
<tr>
<th>Bullet</th>
<th>Max. charge</th>
<th>Velocity</th>
<th>PSI</th>
<th>Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hornady SST</td>
<td>60.5</td>
<td>2869</td>
<td>59,026</td>
<td>3.220</td>
</tr>
<tr>
<td>Nosler Ballistic Tip</td>
<td>59.4</td>
<td>2820</td>
<td>59,403</td>
<td>3.340</td>
</tr>
<tr>
<td>Sierra GameKing</td>
<td>60.0</td>
<td>2852</td>
<td>59,468</td>
<td>3.335</td>
</tr>
<tr>
<td>Sierra MatchKing</td>
<td>58.5</td>
<td>2824</td>
<td>59,469</td>
<td>3.305</td>
</tr>
<tr>
<td>Sierra ProHunter</td>
<td>59.9</td>
<td>2835</td>
<td>59,725</td>
<td>3.300</td>
</tr>
<tr>
<td>Speer Grand Slam</td>
<td>61.0</td>
<td>2860</td>
<td>59,890</td>
<td>3.170</td>
</tr>
<tr>
<td>Barnes TSX Boattail</td>
<td>60.4</td>
<td>2838</td>
<td>55,048</td>
<td>3.170</td>
</tr>
<tr>
<td>Nosler E-Tip</td>
<td>58.1</td>
<td>2821</td>
<td>59,470</td>
<td>3.340</td>
</tr>
</tbody>
</table>

PSI denotes electronic pressure measurement, as opposed to the CUP of copper-crusher pressures. Note that with the exception of the Barnes TSX, the pressures vary only from 59,026 to 59,890 PSI, a difference of 1.5%. This is because they adjust the maximum powder charge to result in pressures just under the SAAMI .30-06 maximum of 60,000 PSI. The velocity also varies relatively little, from 2820 to 2869 fps, 1.7%. Yet the maximum charge varies from 58.1 to 61.0 grains, a difference of 5%, far greater than either pressure or velocity, indicating the considerable difference in pressures from different bullets.

It could be argued that seating depth is different too, but overall cartridge length doesn’t show how far the bullets are from the lands. The bullet with the shortest overall length, the Speer Grand Slam, is a flat-tipped spitzer. The Barnes TSX has a fairly large hollow-point to insure expansion, also essentially resulting in a flat tip. My bet, based on several visits to the Western Powders lab, is the distance from each bullet’s ogive to the test-barrel’s lands is pretty similar. And the Barnes TSX pressure of only 55,048 PSI demonstrates Keith’s point.

There’s a far wider variety of bullet construction today than back when loading manuals often listed only bullet weight, rather than the specific bullet tested.

Even bonded bullets vary widely in both internal and external construction, resulting in different pressures. From left are a sectioned Nosler AccuBond, Trophy Bonded Tip, and North Fork Soft Point.
Like many hunters who’ve dreamed of Africa—or more precisely dreamed again and again of Africa, after their first safari—I eventually wanted a big-bore double rifle. Why? Because that’s what real safari hunters used, especially for Cape buffalo, the only large member of the Big Five most of us can afford. Despite this desire, and several years of being semi-serious about buying a big double, it never happened. Here’s why:

My first African hunt took place in 1993, due to an unanticipated invitation from an optics company. It was a typical “starter safari,” a South African package deal for four plains game animals up to kudu. My rifle was a Mark X Mauser .375 H&H—not necessary for plains game, but I’d purchased the .375 the year before in anticipation of Africa, so it went.

A few days into the hunt the professional hunter mentioned that one of his PH partners in Botswana had a spare buffalo permit for the Chobe River region. Another client had cancelled his hunt, and I could have the permit and hunt for half-price. At that moment I felt very lucky about deciding to bring the .375, and said yes. So my PH contacted his Botswana partner—but a German had already purchased the buffalo hunt.

Further African plans got put on hold for a few years, due to taking advantage of similar unexpected opportunities in Alaska and northern Canada, along with a couple in Europe. During this period I got to shoot several more “African” rifles, including a .470 Nitro-Express double and a bolt-action .505 Gibbs, neither of which I liked because they were too damn light for their chambersing.

Then I got to shoot a bolt-action .416 Rigby, in fact THE .416 Rigby made famous by Robert Ruark in his book *Horn of the Hunter*, about Ruark’s first safari, with a young PH named Harry Selby. When Selby retired he sold the .416 to one of his frequent safari clients, a rice farmer in Arkansas who’d opened his big plantation to guided hunting. Several writers were invited to hunt deer and ducks there by an ammunition company, and the perks of the trip included shooting Selby’s famous .416. Like the .470 and .505 it weighed around nine pounds, but due to its “small” chambering was far more pleasant to shoot.

In 2001 a magazine decided to send me and fellow writer Brian Pearce to Zimbabwe for a mini-version of Theodore Roosevelt’s year-long safari in East Africa. The inspiration for the hunt was a new reproduction of the 1895 Winchester lever-action, the chamberings including the .405 WCF, Roosevelt’s “lion medicine.” I was also going to bring a restocked, iron-sighted 1930 Springfield, resembling Roosevelt’s “little Springfield.”

When my friend Tim Crawford heard about this, he suggested I take along one of his double rifles, because Roosevelt had also used a Holland & Holland .500/.450 Nitro-Express. Tim’s was a Manton .450/.400 Nitro-Express, and he also loaned me brass and dies to work up some handloads. The Manton weighed just about 10 pounds, and with 400-grain bullets at 2100 fps was even more pleasant to shoot than the Selby .416, and in the process I learned a lot about handloading for double rifles. Unfortunately, the first flight of my trip to Zimbabwe, from Montana to Salt Lake City, left on the morning of September 11, 2001, and the terrorism took place while my plane was in the air. So I did not go to Zimbabwe, one of the millions of microscopically minor consequences of that terrible day.

A week after 9/11 the airline delivered the Manton to me, and I drove it the hour to Tim’s place. He mentioned possibly selling it, and I said I might be interested, but not very positively, perhaps because of the recent events. By the time I could think positively, Tim had sold it to someone else.

A search found another British .450/.400, priced at $10,000. But in the meantime I’d purchased a CZ 550 Magnum in .416 Rigby from a friend for $1000, remodeling it to match the Selby rifle in weight and balance. The .416 really needed to go hunt Cape buffalo, and $10,000 would go a long way toward a buffalo safari—and did, in Botswana’s Okavango Delta.

A few months later it took a water buffalo in Texas, and worked so well on both bulls I decided against spending big bucks on a big double—partly because the .416 seemed to be one of those lucky rifles. (And yes, I believe in lucky rifles—and also unlucky rifles.)

But the pleasant experience of handloading and shooting the .450/.400 had planted double rifles into the rifle-loony part of my brain. Yet another enabling rifle-loony friend, gunsmith Karl Heckman, phoned one morning from Livingston, Montana. The front of his shop contained a rack of used firearms, some he’d taken in trade for work, and others on consignment. Karl did a lot of work on classic rifles and shotguns, and Eileen and I had bought several from his used rack over the years.

This time he had a German double rifle, a Thieme-Schlegelmilch 9.3x74R, at a price much less than even package plains-game safari. While the 9.3x74R isn’t a big bore round, it’s very close to the .375 Flanged, the rimmed version of the .375 H&H. Before World War Two, Thieme-Schlegelmilch had been an old, respected firearms firm in Suhl, but like many other German gun manufacturers went under due to the war. After Karl answered a couple of other questions, I said we’d be in that afternoon to pick it up.

It turned out to be a very nifty rifle, and potentially more useful than a .450/.400, since it only weighed an ounce over eight pounds, and had factory sling-swivel
studs, just like most German shotguns. (Many older British double rifles do not have studs, because their owners expected somebody else to do most of the carrying.) It also had bases for a detachable scope mount, though of course the scope and mounts "went missing," the current phrase often applied to anything that disappears. Many pre-WWII German rifles end up in the U.S. without their scopes, something often attributed to the Nazi ban on private firearms for all except "true" Germans: People could keep the scopes, but not the guns.

Generally, getting double rifles to shoot two "pairs" of shots from each barrel into minute-of-grapefruit at 100 yards is considered sufficient for large-game hunting and minute-of-softball better than average. I looked over a bunch of reloading data, in particular loads with Hodgdon Extreme powders.

When a side-by-side double's fired, whether a shotgun or rifle, the right-hand barrel tends to swing to the right during recoil, and left-hand barrel to the left. Gunmakers compensate for this by attaching the barrels so the bores point slightly toward the mid-line of the gun. With a shotgun, the patterns overlap enough to cover any discrepancies in point-of-impact. (Or at least they usually do. I've seen some that didn't, even on pretty expensive guns.) With double rifles, however, the barrels must be far more precisely "regulated" to shoot to the same place, through test-firing with one specific load.

If the velocity or bullet weight varies much from the regulation ammo, the bullets from each barrel land wide of point of aim (POA). The standard handloading procedure is to start with a relatively mild load with the regulation-weight bullet. This weight's usually stamped, with other proof-marks, on the barrels. The 9.3x74R was stamped 18 grams, about 278 grains.

A "starter" load normally places bullets from the right barrel to the right of POA, and bullets from the left barrel to the left. Powder's added a little at a time, just like you would with a bolt-action, until the bullets from each barrel land in the same place. (Or approximately the same place. Many doubles have minds of their own, and don't cooperate as easily as others, with one barrel also shooting above the other.)

Often the rifle goes out of regulation if the ambient temperature changes considerably. This was a real problem with early smokeless powders, especially Cordite, the British "spaghetti powder." Cordite ammo for doubles often came in at least two different power levels, for regulating at different temperatures.

This happens to a smaller extent even with modern, supposedly temperature-resistant powders like the Hodgdon Extremes. I've yet to encounter a temp-resistant powder that didn't gain some velocity above 80 degrees—including the H4831 used in Tim Crawford's .450/.400.

One day after working up the loads, I took a translucent plastic box of ammo to the range for some practice, and inadvertently left it in the sun for a few minutes. At 50 yards the bullets landed around six inches apart. After allowing the ammo to cool in the shade it behaved correctly again, and I made a mental note not to leave any in the sun in Africa.

Luckily the Thieme-Schlegelmilch proved to be a very honest double. I started with 63.0 grains of H4350 and 286-grain Nosler Partitions, and hit the softball jackpot with 64 grains, at a muzzle velocity of just about 2400 fps—from both barrels. Many older doubles don't regulate easily because the right-hand barrel has been fired considerably more, resulting in more throat erosion due to early, and hot-burning powders. The eroded throat results in lower velocities than the left barrel, and sometimes a slightly different powder charge must be used for loads in each barrel.

Luckier still, with the same powder charge 270-grain Speer Hot-Cors also shot to the same place, even though muzzle velocity was about 2450 fps. Speers cost considerably less than Partitions, and work fine on "deer-sized" game at such modest velocities, as I'd discovered with other 9.3mm rifles. During my second range session, I shot a 4-shot group at 60 yards with both loads—two pairs with the 270 and 286. All landed in a 2-inch group. Many doubles are far more sensitive to bullet weight, but maybe these work because the bullets are eight grains on either side of the 278-grain regulating load.

This may not seem impressive to modern hunters used to scoped bolt-actions, and in fact a friend who was along said he'd never buy a double rifle, because they're "not accurate." So I pointed out a rock on the 200-yard berm that looked about six inches across, and asked him to watch it through the spotting scope. At my shot the rock burst in two.

"Do you think that would kill a deer or elk?" I asked. He grinned—but I'd cheated a little on that shot, raising the hinged, tang-aperture sight. These are pretty common on older German break-actions, whether single-shots, drillings or doubles. Oh, and all those groups were shot with a bead front sight almost .1 inch wide, not exactly designed for target precision, but (more likely) driven boar in dim German forests.

Eventually I also filed some Talley detachable rings to fit the bases on the rifle, and mounted a 2.5x Leupold. However, another interesting facet of double-rifle regulation is adding a scope (or any other significant weight) usually "deregulates" them. The 286 Partition loads shot about five inches apart at 100 yards, but probably would shoot together with another grain of H4350—which I'd tried during the initial range session with irons, resulting in a group twice the diameter of a softball.

So far I haven't performed that test, but probably should—along with taking the rifle hunting more often. I carried the 9.3x74R some in Montana the first couple years after buying it, but never took a shot, mostly because I was more into trophy hunting in those days. It deserves to shoot something, because for an old double it's a very honest rifle.
Just about every hunter has firm opinions about appropriate firearms, cartridges and ammo for hunting wild game, but some have even firmer opinions, thanks to being “official” experts due to their occupation. Oddly enough, many of these occupations begin with the letter G: gun writers, game wardens and guides. For now we’ll stick to guides.

One of the more interesting interfaces Eileen and I’ve had with guides occurred in the spring of 2003, after Ducks Unlimited hired her to write Upland Game Bird Cookery as a companion volume to Duck & Goose Cookery, the cookbook she’d written for them a couple years earlier. One of the more pleasant tasks associated with her cookbooks is collecting field specimens for kitchen experiments, because unlike some game cooks, Eileen doesn’t use pen-raised “game,” or publish recipes submitted by other hunters. All her recipes get tested and modified by cooking wild game in her own kitchen. This means we often travel to collect test samples.

While Montana has a decent population of Merriam’s turkeys, we decided to travel to New York and Alabama to obtain enough birds for a variety of recipes, and also directly taste-compare turkeys from various parts of the country. (This was in addition to the 12,000 miles we put on our vehicles while hunting chukar, woodcock, prairie chickens and several kinds of quail in Arizona, Idaho, Michigan, Nebraska and Oregon.)

In Alabama we hunted with our old friends the Pitmans, at their White Oak Plantation near Tuskegee. This was several years before Eileen started getting recoil headaches, and while she’d killed quite a few gobblers with 20-gauge shotguns (and more since), for this serious travel-hunting she used a Beretta semiauto 12-gauge, because she wanted to take advantage of any reasonable opportunity.

The Beretta had a 3-inch chamber, but after patterning a wide variety of ammo we discovered it put the most shot into a turkey-head target with a Federal 2-3/4 inch load, using 1-1/2 ounces of copper-plated #5 shot. Not only did the “short magnum” Federals out-perform several 3-inch loads, but patterned tightest in the Beretta’s modified screw-in choke. This isn’t unusual with hard shot, because tighter chokes often constrict the shot-charge too much.

When we arrived at White Oak, however, we ran into a little problem. Head guide Bo Pitman decided to personally guide Eileen, but after asking what load and choke she was using, he became convinced Eileen was using a short-range shotgun—so he had to call birds in close.

Eileen could take two birds, and the first one strutted in to 20 yards before Bo would let her shoot. The gobbler was blown over backwards, lying literally dead-still on the ground, wings spread out like a sacrifice to The Great God of Game Cooking.

However, this still didn’t persuade Bo that Eileen’s gun just might do the job at longer ranges. He called the second gobbler in to 25 yards, and essentially the same thing happened. When we left, he was still telling the other hunters in camp (all of them male, who’d killed a total of one gobbler between them) about how she’d done right well with such a wimpy shotgun. I suspect that outside our hearing he might have called it a girly-gun.

But killing turkeys most sincerely dead doesn’t depend on the gauge, length of the case, or constriction of the choke. Instead it depends on how many pieces of shot land in a gobbler’s head and neck. If several hard #5’s from a 20-gauge hit the neck and head, the turkey will fall down dead. While Bo had seen thousands of turkey ground-sluiced over the decades, he’d never grasped this basic fact.

Similarly, many big game guides judge rifle “killing power” on caliber, case size and headstamps, when what matters most is where the bullet lands. Around the same time as our turkey-killing trek, my friend and fellow writer Nick Sisley went to Alaska after Dall sheep and caribou. I’ve known Nick for half my life, and like many writers (though by no means all) he’d hunted enough big game to know a “magnum” wasn’t needed for this job. He was also getting to be of an age where a lighter rifle (and boots, and pack) made it easier to hike around steep mountains, so he took a Remington Model 7 in 7mm-08.

His 20-something guide, however, was a type not uncommon in Alaska. Like many young men with relatively little hunting experience, he was a fan of magnums, because everybody knows they kill “better.” When he watched Nick’s little rifle come out of its case, and then saw its diminutive cartridges, he was sure they were headed for disaster.

That night in camp he suggested that Nick use his 7mm Remington Magnum instead. Of course, Nick disagreed, and the young guide attempted to change his mind. Eventually he asked for one of Nick’s 7mm-08 rounds, placing it next to one of his cartridges so Nick could grasp the OBVIOUS difference.

The rest of the hunt went similarly to Eileen’s turkey hunt. Nick dropped a good Dall ram and bull caribou promptly with one shot each. The young guide saw this happen, yet wasn’t totally convinced because, like
many people, he approached life with convictions based on what “everybody” thinks. Even hard evidence doesn’t necessarily sway such consensus opinions.

This also isn’t uncommon with 7mm Remington Magnum loonies. Now, I don’t want to upset its fans, so will note that I’ve taken quite a few animals with the cartridge, and seen my hunting companions (including people I’ve guided) use it successfully as well.

But when the 7mm Remington Magnum appeared in the early 1960’s, very few American hunters used belted magnums, partly because there weren’t many chambered in American rifles except Weatherbys, and Weatherby rifles cost over twice as much as Remington 700’s, and ammo far more as well. Some hunters were vaguely aware of the .375 H&H, but considered it an “elephant” cartridge.

As a result, the 7mm Remington Magnum became everyman’s magnum.

Many were awed by the published factory ballistics, a 150-grain bullet at 3260 fps and a 175 at 3020. The 150’s were 200-250 faster than 150 factory loads from the .270 Winchester and .30-06 Springfield, and the 175 within 50 fps of the 180-grain factory load in the .300 Winchester Magnum. It didn’t matter that Remington’s ballistics were inflated—an independent test in a 700 rifle resulted in 3135 fps for the 150 and 2990 for the 175—because they believed their cartridge was vastly superior to “standard” rounds. Hell, the case looked superior, much thicker than the .270 and .30-06, and still did to the young Alaskan guide 40 years later.

Quite a few deer and elk guides also believe there’s a vast difference between the 7mm Remington Magnum and the .270 and .30-06. Eileen ran into one of these a decade ago in another turkey camp, a woman who, with her husband, ran a mule deer and elk outfitting business in Colorado. The woman, of course, shot a 7mm Remington Magnum, and told anybody who’d listen that she and her husband didn’t allow “their” hunters to use .270 Winchesters. At the time Eileen had killed all of her elk with one shot from a couple of different .270’s, and took exception, which made for some interesting times in turkey camp.

In general, African PH’s tend to be more sophisticated about rifles, cartridges and bullets than North American guides, partly because they guide half the year, instead of a month or two, and each of their clients usually takes around half a dozen animals, instead of one or two, usually including more than one elk-sized animal.

As a result, when I started hunting in Africa in the early 1990’s, most PH’s were far more aware of premium bullets than most American guides, many of whom suggested a bullet weight rath-
160-grain Sierra GameKings, because they make a bigger hole than most premiums, so put wounded bucks down quickly.

Nick Frederick is a pretty relaxed waterfowl guide from Alberta. He believes in what he sees shotguns do, rather than judging “killing power” by their gauge and chamber length.

Eileen and I have hunted waterfowl several times over the past 25 years with Ameri-Cana Expeditions in Alberta, usually when we need a big pile of ducks and geese for one of Eileen’s cookbooks. Canadian limits are higher than here in Montana, and Ameri-Cana’s lodge is only a day’s drive away, so we come back with plenty of ducks, and geese including snows, white-fronts and both lesser and greater Canadas.

Nick has never asked about our ammo or guns before the hunt, partly because we always bring a variety of both for “field-testing.” But when we hunted with him in 2007, he turned to us after the first few flocks came in and said, smiling “You’re not shooting steel, are you?”—because a very high percentage of the geese we shot folded up and fell right there.

While today’s steel-shot loads are pretty effective, we also bring ammo loaded with other kinds of non-toxic shot from bismuth to tungsten. Three days in Alberta essentially, uh, kills two birds with one stone, allowing me to try several kinds of shot. Nick immediately noticed the higher percentage of dead-in-the-air birds, because like Phil and Bill, he judges ammo by results, not by the size of the cartridge or its headstamp.

The Colorado elk outfitter leaning into the pickup’s box is now retired from the business, but during his career saw hundreds of elk taken. He believes the .257 Roberts definitely works on elk, partly because he saw fewer elk wounded with it than much larger “magnums” his clients purchased specifically for their hunt.