and glen, thrown promiscuously together, present the grand­est of savage landscapes, which, as the field of wild adven­ture, cast into shade what Mr. Scrope calls “ the tame and hedge-bound country of the south.”

Τηε Fowling-piece. Before making choice of a gun, the shooter should determine what weight he can conveni­ently carry. The heaviest gun, as regards shooting, will be most effective, but he should recollect that unless he be a very robust person, a light gun will, on the whole, bring him more game, as a few additional pounds in the weight of a gun makes a deal of difference in the distance a person can travel in a day. and, moreover, he cannot shoot as well when fatigued.

The most approved guns under the system which pre­scribes a heavy charge of powder, and a light one of very small shot, are double barrels, weighing, according to the fancy of the shooter, from six to nine pounds, and bearing the following relative proportions of length to guage : four­teen guage, thirty-four inches long; seventeen guage, thirty-two inches long ; twenty guage, thirty inches long. Taking the season throughout, we are convinced, that the most effective gun is a short, wide-bored one, each barrel being charged with rather less than 11/2 drams avoirdupois weight of powder, and full 2 oz. of No. 2 shot, containing 220 pellets. This is the general charge, but it may be varied according to circumstances. When game is wild, we would charge the reserve barrel, and, on some occasions, both barrels, with 21/2 drams of powder, and a No. 5 blue cartridge for partridges, and with a No. 4 or 5 red cartridge for grouse shooting. No. 7 shot is best for snipe shooting. Small shot may be used for partridge sh∞ting in Septem­ber, though we do not see any reason for not adhering to No. 2, except that birds very near the gun are liable to be more disfigured by it.

Barrels twenty-six or twenty-eight inches long, and four­teen or sixteen guage, are of convenient size. We think it will not be questioned that these barrels are as efficient as long narrow-bored ones for short distances, viz. under thirty-five yards, and nine-tenths of game brought to the bag is killed within that distance. And for making long shots, the wire-cartridge has obviated the necessity of using long guns. A most material advantage attending the use of a short gun is, the comparative ease with which it may be carried. A pound additional weight at the breech is not so fatiguing to the arm as half that weight added to the end of the barrel ; it is the top-heavy gun that distresses the shooter.

Different proportions of powder and shot are required for different sizes of shot. The following may be the proper proportions for a gun not exceeding eight pounds :

Size of shot. Weight of shot. Weight of powder.

No. oz. drams.

1. 2 14/10

3 11/2

1. **11/2 13/4**
2. 13/8  2
3. 11/4 21/4
4. 11/8 21/2

These proportions cannot be materially deviated from without destroying the effect. If the powder is decreased, the discharge is weakened ; if the powder is increased, the shot spreads ; if the weight of shot is decreased, there will not be a sufficient number of pellets for effective shooting; if the weight of shot is increased, the discharge is weakened.

The usual objection to large shot is, that after it has tra­velled thirty yards it becomes dispersed ; but let the powder be reduced to less than 11/2 dram, and that objection fails. If

it is not overcharged with powder, a gun will shoot No. 2 shot close enough to kill at from thirty-five to fifty yards, with more certainty than if charged with small shot, and two or three drams of powder.

It is not so much the velocity as the momentum of a shot that renders it effective. The momentum of a shot increases in a direct ratio with its weight. The momen­tum of a No. 2 shot much more than compensates for the diminished weight of powder and additional weight of lead that we have recommended. Large shot droops more than small, and sooner comes to the ground, as it is not carried with the same velocity. It is the momentum, and not the velocity, that the shooter must look to.

We do not suppose that feathers or fur of game present any serious obstacle to either large or small shot ; but if they did, the fact that large shot is most effective for shoot­ing wild fowl armed with down, at once tells that it must be so for shooting game which is not so protected. Ano­ther advantage of large shot is, that when the aim taken is not quite correct, a single outside pellet will often bring down a bird, when it would require many small shots to do so.

The shooting of barrels depends mainly on three things, viz., the metal of which they are made, the boring, and the breeching. The quality of the metal is of much impor­tance. All barrels expand when fired ; and those made of in­feriormetal expand more than those made of stub-twist. Mr. Greener, in his excellent treatise on the “ Gun,”@@1 says, “ that a barrel is a spring on an extended scale, and the more we can make it partake of the nature of a spring, the better. If we must have expansion, let us have it in its most beneficial form ; an expansion that will aid the pow­der in expelling the lead. This cannot be entirely obtain­ed, nor can the quantity of expansion be entirely destroyed, though you were to make your barrels of the weight of a twenty-four pounder. We must, therefore, decrease it, by making our iron as elastic and tenacious as possible. The qualities of elasticity and tenacity can only be obtained by hammer-hardening the iron. Barrels hammer-hardened will shoot as well without any artificial friction, as those whose friction is extreme, yet have not yet been benefited by the process.”

The term friction implies a gradual contraction of the barrel towards the muzzle, which retards the progress of th∣ shot, that more time may be allowed to the powder to burn. “The shooting of all barrels,” says Mr. Greener, “ depends on a certain degree of friction. The degree of friction ne­cessary varies according to the nature and substance of the metal. Those metals that requiro least shoot best. The object of the friction is to create a greater force, by detain­ing the charge longer in the barrel. If, then, there should not be an extra quantity of powder to consume, the friction would be a decided evil." A greater degree of friction is generally allowed to a short barrel than to a long one. A gradual expansion of the barrel towards the muzzle is termed relief. Relief accelerates the progress of shot through the barrels. What is the proper degree of relief or friction for different descriptions of barrels, is a subject fruitful of much controversy ; as is also the form of the breech. The best breech is that which will cause the greatest quantity of powder to consume in the barrel.

Mr. Greener would not prevent the barrel expanding when fired, by increasing its thickness, but by improving the quality of the metal. When the barrel expands much, or is held loosely when fired, a loss of strength is induced, as that power which, if possible, should be exerted on the shot, is uselessly expended in a contrary direction, whereas, when the barrel is firmly fixed, and made of metal that only

@@@, The Gun, by William Greener. London. 1835