

PHYSICAL EDUCATION FOR HEALTH
Radio Program

Feb. 23

"Archery Tackle, Its Care and Selection"
(Dr. V. W. Lapp, Dept. of Physical Education, and Mr.
Gordon Hoffman, Dept. of Chemistry)

Lapp

Before one can take archery seriously it is necessary to have some equipment; namely, a bow, arrows, an armguard or bracer, a shooting glove or tab, a quiver and a target. In addition, a pouch is desirable for carrying a spare bow string, the shooting tab, and a note pad. In the archer's terminology, the items just mentioned are called "tackle". Tonight we have with us Mr. Gordon Hoffman, who can be considered an expert in this line because for a number of years he has made archery tackle, both as a hobbyist and as a commercial artisan. I am going to ask him to discuss bows as the first item on our list.

Hoffman

In order to make the discussion of bows more understandable, it is necessary to define a few terms. First, the back is the outer or convex surface of the bow when drawn, usually flat or nearly so. Second, the belly is the inner or concave surface of the bow when drawn. Third, the limbs are the upper and lower halves of the bow. Fourth, the handle is the middle portion or grip. Fifth, the weight of the bow is the tensile strength at full draw, expressed in pounds, and is not the actual weight of the bow. Bows may be made of wood, horn, and sinew (called composite bows) and of steel. Steel bows do not break easily but are somewhat harsh in action and are not widely used. Composite bows are usually made of a thin layer of wood, to one side of which is glued pieces of horn from water buffalo or yaks; this side then becomes the belly of the bow; to the other side is glued shredded sinew, and this becomes the back of the bow. Composite bows are usually very short and strongly reflexed. By far the most widely used are bows made of wood. The woods most generally used are Yew, Osage Orange (commonly known as hedge), and Degame (or lemonwood), in the order of their excellence. Other woods sometimes used are hickory, lancewood, snakewood, bamboo and others. Yew is the bow-wood of song and story, and Yew bows command good prices ranging from a low of \$12 - \$15 for C grade bows to \$25 for grade A bows. Exceptionally fine bows are sometimes sold for much higher prices. For quickness of cast and smoothness of draw Yew cannot be beaten. Yew bows should have a layer of the creamy sapwood about 1/4 inch thick on the back, or perhaps a backing of some other tough wood, usually hickory. The heartwood is a beautiful reddish brown.

Osage Orange is a bow-wood of the highest order, and is desirable for hunting, but for target work good Yew is to be preferred.

The most serviceable wood for low-priced bows is lemonwood. Lemonwood bows are not so quick in cast and are heavier in the hand than Yew or Osage Orange, but are far less expensive. They have a smooth pleasant draw and if properly made are free from handle jar. Lemonwood makes an excellent bow, even for tournament shooting.

Hickory bows follow the string badly, have a very poor cast, and are little if any cheaper than lemonwood.

Bows in general may be of two types, the long bow and the flat bow, or may be a combination of the two. The flat bow is somewhat shorter than the long bow, but is wider and not so deep from back to belly. The flat bows generally have smoother draw and quicker cast,

and are less liable to break. Bows may be backed with a thin layer of clarified calfskin or fiber to protect the back from being scratched. A fiber backing, however, is too inelastic and interferes with the reciprocal action of the bow and may cut down the smoothness of draw.

There is a difference between defects ~~in~~ bow and deficiencies. The former exist in nearly every stave and must be compensated for by the bowyer when making the bow. Deficiencies may be of commission or of omission. Knots, pins, and small worm holes in the belly can be neutralized by raising or drilling out as a dentist drills out a decayed tooth, and inserting a "Dutchman", or plug. The back is most important. Almost any defect may be compensated for if the back is good. Bowstaves are like people; those grown in protected localities, though beautiful to look at, are often weak and supple and lack character, whereas those who have had to struggle for an existence often come through scarred and unsightly, but are made of sterner stuff. Osage Orange and Yew bows may be somewhat crooked and wavy, for they are made so that the profile follows the natural flow of the grain. Lemonwood bows, however, are symmetrical and pleasing to the eye.

Bows should be made so that they are quite stiff and bulky in the handle, but bend in an otherwise even, graceful arc from the handle section to the tips. The working strains are thus evenly distributed and the probability of breaking is at a minimum. A hinged bow is one that has a sharp bend or "hinge" in one or both limbs. This places most of the strain in one place, increasing the chance of breakage. A whip-ended bow is stiff in the center and for several inches above and below the handle, but bends evenly from there to the tips. Whip-ended bows are pleasant to use, and are of good cast but are prone to easy splintering in the back and have an accentuated tendency to follow the string. A bow that bends in the handle may describe the "perfect arc" of the poets, but will kick unmercifully and be very disagreeable to use. The handle may be made of velvet, plush, leather, or cord; the material may vary but should be comfortable and firm. The string, usually of linen, should be strong enough for the bow, but should not be too heavy as this markedly decreases the cast of the bow. Absolute lack of stretching is an imperative quality for any bow string.

Lapp

Mr. Hoffman has told you a good deal about bows and their construction, and while he is catching his breath, I shall say a few words about their selection. When picking out a commercial bow, have the salesman pull the bow to a full draw several times. If it will stand this test you can be sure that it will not immediately break after you leave the store. This test should be applied by the salesman because commercial houses will not guarantee a bow against breakage after it leaves their place of business. After it is yours, take care that it is never drawn beyond the point of your normal draw.

Do not make the mistake of buying a bow that is too strong. Ordinarily men should not take up the sport with a bow weighing more than 42-45 pounds. Most women will start with bows between 20-30 pounds. A bow that is too strong will cost the shooter in fatigue, loss of form, and accuracy.

The principal factor in the care of a bow is to see that it is never overdrawn. It is said that a bow fully drawn is $\frac{7}{8}$ broken and for the novice this cannot be over-emphasized. In stringing the

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bow one should never place the lower tip on the ground and push the upper tip down, nor bend the bow with the knee. Always watch strangers and do not let them handle your bow, unless you are certain that they know what they are about. A new bow and old ones that have not been used for some time, should be strung with care and broken in gently by drawing and relaxing the string for progressively longer and longer draws until the full draw has been reached. Do not loose any bow from the full draw position without an arrow on the string. Bows should never be left near steam pipes, radiators or other sources of artificial heat and they should always be unstrung when you put them away.

Now that Mr. Hoffman is rested I'll ask him to discuss arrows for us.

Hoffman

Arrows are the most exacting of the archer's equipment. Arrows are of two types; "self" made of a single stick of wood, and "footed" which have a hardwood "footing" or foreshaft glued to the front of a shaft of a lighter wood. A chested arrow is heavy at the neck, then tapers gradually toward the "pile" or point. A bob-tailed arrow is the reverse of the chested arrow. A barreled arrow is smaller at both ends and slightly larger in the middle. Cylindrical arrows are the type generally used. For the beginner birch arrows are good because they will stand a lot of abuse, but they tend to warp easily. The woods most widely used are Port Orford Cedar, Norway Pine and Sitka Spruce. Norway Pine is considered the king of arrow woods, but it is difficult to obtain the true species. Port Orford Cedar is an ideal wood and is generally used. There are other excellent woods for arrow making. Footings may be made of Beefwood, Purpleheart, Lemonwood, or stained Hickory. Fine arrows are matched for weight, straightness, spine (or stiffness) and for grouping on the target. An arrow that is too stiff will have a tendency to shoot to the left.

In regard to the feathers, the arrow may be fletched straight, or spirally so that the arrow spins like a rifle bullet in flight. Spirally fletched arrows will have a smoother flight than the straight feathered arrows, but on the other hand, they will hide a bad loose, while a straight feathered arrow will expose it so that it may be corrected.

The feathers used (usually the pointer feathers from the turkey) may be either cut or stripped. The cut feathers are prepared by paring off the quill to leave a stiff foundation, while the stripped feathers are merely peeled from the quill. Cut vanes are more durable and stand out perpendicular to the shaft while stripped feathers lean over at a slight angle. It is important that all the feathers be aligned in the same direction or the arrow will wobble and stagger like a drunken sailor.

The arrow neck is the notch into which the bow string is placed and it is well to have some sort of reenforcement here, else the arrow will split easily. This neck reenforcement may be merely a thin fiber insert, a wedge of horn, fiber, or hard-wood, or it may be a tubular shaped piece of fiber or metal glued on the arrow shaft.

Cheap arrows are frequently made with bullet jackets for points but these are objectionable in that there is a tendency to kick the shaft to the left if the full length of the arrow is drawn in aiming.

The standard point is the parallel pile turned from steel or brass rods. Arrow length is important, as short arrows cramp the archer and do not get the most out of the bow, while long ones overtax the bow and make the archer extend beyond comfort. The arrow length determines the length of the bow, the bow does not determine the length of the arrow. The correct arrow length should be determined by the shooter at full draw.

Dr. Lapp, will you mention some of the factors to be considered in the purchase and care of arrows?

Dr. Lapp

In the buying of commercial arrows one should first look for straightness. A series of small curves does no great harm, but a single wide bend should not be accepted. A good test for straightness is to spin the arrow between the nails of the thumb and second finger. If the arrow hops off, it should be rejected. Arrows, however, may become warped with use. To straighten these, heat the bent portion, taking care not to scorch the shaft, bend it carefully to straighten it, and hold it in this position till the wood is set. Arrows warp less if stored in an upright position.

Arrows range in price from \$3.00 per dozen for cheap birch, to \$16 - \$18 per dozen for matched footed arrows which are machine tested to group in the gold at 60 yards. Mr. Hoffman, we have governed bows and arrows rather thoroughly. How about the other tackle necessary for shooting?

Mr. Hoffman

An arm-guard is necessary to prevent bruising or lacerating the left forearm. Theoretically this should not be needed since the bow should be so held that the string will not strike the wrist, but even the top notch archers find an arm guard necessary. A service quiver is a most convenient accessory. It should be light and deep enough to hold the arrows from falling out. The quiver should be fairly rigid so that the arrows are easily inserted and removed. Any sort of receptacle that will answer the purpose will do. Wm. H. Palmer, the 1928 champion, appeared at the 1925 tournament with a long pasteboard box stuffed into one of his wife's stockings which was fastened to his waistband with a large safety pin.

Good finger tips or a satisfactory shooting glove are essential to good results. These should be made of reasonably stiff, smooth leather. If tips are too thick and hard the string cannot be felt through the leather and the loose will be uncertain.

The target boss (the backing for the face) may be made of coiled straw or marsh grass. A satisfactory substitute for the regulation target boss is the "butt". This is a permanent backstop. A butt made of bales of straw serves nicely. The target face is painted on cloth and is a four-foot circle divided into five equal and concentric rings. The diameter of the gold or center of the target is 9.6 inches and each of the four surrounding rings is 4.8 inches wide.

Dr. Lapp

If you were advising a beginning archer in the purchase of equipment, how much should he pay for acceptable tackle?

Mr. Hoffman

About \$10 would do the trick. A good inexpensive outfit for

general use might consist of the following: a flat unbacked lemon-wood bow, which will cost about \$4.50, self Port Orford Cedar arrows of the proper length, costing about \$4.00 per dozen, an arm-guard which may cost from 60¢ to \$1.00 depending upon the type and quality, a finger tab, or shooting glove costing from 20¢ for the tab to \$1.00 for the glove, and a quiver costing from 90¢ to \$2.00.

Dr. Lapp I wish to thank Mr. Hoffman on behalf of the Department of Physical Education for his time in the preparation and presentation of this program.

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February 10, 1939

"Social Dancing in the Physical Education Program"
(Miss Jane Byrn and Mrs. Margaret Dart)

- Mrs. Dart Miss Byrn, there is an ancient Chinese proverb which states that "you can judge a kingdom by its dancing". I wonder if that bit of oriental wisdom is of any significance today.
- Miss Byrn I think it is, Mrs. Dart. I'm sure that those persons who are acquainted with the history and development of the folk forms of other countries and our own would be the first to agree that the dance of the people, more genuinely than any other form of physical activity, reflects the attitudes, temperament, philosophy and social conditions existing in any era. And that proverb, in my opinion, loses none of its significance when applied to the folk dancing of our own day, more frequently referred to as ballroom dancing or social dancing.
- Mrs. Dart Then I am not wrong in thinking that you mean our dancing today is as appropriate to the life we live here and now as was the dance of the Indian when he danced a prayer for rain?
- Miss Byrn Yes, that is true. The student who attends the weekly varsity is only remotely concerned about the prospect of rain, if he ever thinks about it at all, but rain to the Indian meant the difference between poverty and a life of abundance. One cannot by any stretch of the imagination conceive of the square dances of our forefathers evolving out of the manners and customs, in short, the life of the people of France in the seventeenth century. It would be no more ludicrous to expect that the minuet would be a logical expression of the urge to dance in our age.
- Mrs. Dart Granting this to be true, it would be logical to expect that any individual, dancing the particular dance that is the fashion of the moment, would so interpret the dance that it would possess many of the attributes of the personality of that individual.
- Miss Byrn Yes, Mrs. Dart, each one of us, unconsciously for the most part to be sure, reflects in our interpretation of the currently popular dance figures, differences in response to life in any age.
- Mrs. Dart It is not uncommon that we find courses in Social Dancing being offered in our schools now, more often than not sponsored by the physical education departments. Do you feel that this is a logical part of the physical education program?
- Miss Byrn Indeed I do, Mrs. Dart. Until comparatively recent years, social dancing was never included in the physical education program. Now it is being realized that the one physical activity which more people enjoy during youth and adulthood than any other should command a definite recognition of our opportunities in this direction. In the past there has been a reluctance on the part of physical education departments to assume any responsibility in the matter, partly due to so-called community taboos, whether real or imagined, but largely due to

the fact that we have so few teachers trained in this area of physical and social activity.

Mrs. Dart Yes, we talk about "carry over values," providing a program which meets the interest of the child, creating life situations, wholesome social relationships, and yet one activity that certainly meets with all of these requirements is either entirely omitted from our programs or relegated to an after-school activity for which no credit is given.

Miss Byrn Yes, that is quite true, and why a credit in social dancing is not worth as much as one in tap dancing or soccer or badminton, I don't know. But it is my firm conviction that our ballroom floors might present a very different picture if those of us in the field of physical education will consider the faults that give social dancing its poor reputation and accept the challenge the situation presents and get to work.

Mrs. Dart Miss Byrn, don't you feel that many teachers, competent in the game and dance programs of physical education, are comparatively untutored in the principles underlying good social dancing or the methods of teaching it successfully?

Miss Byrn Yes, Mrs. Dart, it is true that until very recently most of our schools training teachers for careers in the field of physical education have neglected to train them in the one physical and social activity which continues to be useful all through life. We go to great pains to see that our students gain proper respect for the importance of body stance, foot work and timing in the practice of his swimming or tennis strokes. We provide all kinds of opportunities for students to learn tap and folk dancing, and still omit the folk dance which is their own. For certainly our social dancing is America's folk dance, the dance of the people.

Mrs. Dart Yes, if we admit that there are worthwhile values in the study and participation of folk dancing, then a folk dance course which does not include our own folk dance is just as illogical as a language curriculum which contains all languages except English, the one we use.

Miss Byrn In the past, there has been to some extent a feeling that social dancing possesses accompaniments unworthy of being brought into our schoolrooms. It is true that much of our modern dancing is cheap and ugly. Consider the picture which an average dance suggests. Milling stag lines, couples shuffling along in a sort of semi-conscious haze, bodies hunched into atrocious positions and the general atmosphere one of rowdiness and bad manners.

Mrs. Dart Yes, I think one might safely say that a modern dancing party is trial and tribulation to parents and teachers. Attractive girls develop into loud, racy adolescents in a desperate effort to escape the wallflower class and other girls not so successful in their appeal to the stag line save their pride by pretending they dislike boys. I think it would be safe to say that there are many uncomfortable boys in the stag line, hesitating to "cut in" on a dancing couple for fear of being refused or perhaps being caught with a so-called wallflower.

Miss Byrn Yes, Mrs. Dart, all of these conditions are testimony to the general lack of taste and feeling for an activity which could and should be a

highly satisfying means of social expression instead of a hotbed of distorted personalities. Ideally, every school should have a social director - a person of tact and charm who realizes the importance of helping boys and girls to have wholesome good times together. Besides the training in dancing, there are opportunities to learn and practice gracious and considerate behavior, the importance of posture and a natural and easy walk, all worthy and attainable objectives in a well conducted dance class.

Mrs. Dart I think we cannot fail to admit that we have a definite responsibility in doing all we can to promote the acceptance of this challenge, though I have no doubt that many physical education teachers might feel inadequately prepared to build a course in social dancing. Would you have any suggestion as to a method of approach, Miss Byrn?

Miss Byrn Of course, it goes without saying that the successful teacher must be a good dancer herself. It is fully as ridiculous for an individual who does not dance to teach dancing as it would be for an individual to referee a basketball game when he does not know the rules. In a beginning class an introduction to the course should be made in which general points of etiquette and good dancing are stressed, to bring out the point that behavior on the dance floor is always associated with good manners. Points concerning dress and grooming, addressing guests and hosts, introductions, gracious greetings and leave takings, seeing that everyone has a partner, deference to older people, and so forth, should be discussed whenever mistakes are made they should be quietly pointed out. All of this instruction should be correlated with actual social situations by having a party now and then, first presided over by the instructor but later managed by the students as they gain confidence and poise.

Mrs. Dart Yes, these should be very helpful suggestions, and I feel, too, that the importance of carefully selected leadership cannot be overestimated. Many teachers find it difficult to attain a sane and normal approach to the boy and girl problem. A disciplinary attitude, on the part of teachers, a policing of parties is fatal to the success of the undertaking. Miss Byrn, do you teach the "Big Apple" in the social dancing course offered in the University program?

Miss Byrn No, Mrs. Dart, but I assure you that is not by reason of any personal objections on my part, but this omission may be explained by the fact that a high degree of coordination and skill is required for the execution of the figures danced in the "Big Apple," a degree of skill not generally possessed by the students enrolled in our beginning and intermediate classes. However, the fundamentals of the waltz and fox trot provide a basis of fundamental movements which enables the students to master the more novel steps with comparative ease.

Mrs. Dart However, I have no doubt that the inclusion of the "Big Apple" in the dance program in many schools would meet with considerable objection.

Miss Byrn Yes, that is true, Mrs. Dart. Ballroom dancing has always been a subject of great controversy. Surprising as it may seem now, the waltz when it was first introduced to the people of England, was considered little short of scandalous and excited only disgust and mild amusement on the part of the lookers-on.

Mrs. Dart Yes, Miss Byrn, it is doubtful that there has ever been a single form of ballroom dancing which has not brought forth controversial opinions and objections on the part of some.

Miss Byrn However, I strongly suspect that most of the destructive criticism that is so prevalent comes from those who have not taken part in what they are criticising. As a matter of fact, this point was made by a class of deans of women in a Teachers College who took the course in social dancing primarily to learn how to judge and guide the expression in the social dance among their students. After learning all the prevailing fads in turns, hops and intriguing twists, they admitted that they appreciated for the first time the sheer joy that was to be derived from the rhythmic responses which they had previously so harshly condemned. After this experience they were willing to accept the modern departures from the old fashioned waltz without any further justification of their popularity than the sheer fun of doing them.

Mrs. Dart It is a well known fact that we distrust the unknown and I suppose that accounts for the fact that each new style of dancing has immediately outraged the public, which remains as a whole, resistant to change in any field of endeavor. The fact that fashions in dancing change so rapidly may have something to do with the reluctance of many teachers to attempt to keep informed in the currently popular dances.

Miss Byrn Yes, one of my friends teaching a high school class in social dancing was confronted with the request of students who wanted to be taught the shag. She later confided to me that only a week before she had spoken to the P.T.A. on "The Awkward Age" but not until the moment of this request was she ever aware of having reached it. But whether we teach the waltz or the shag, the importance of helping young people to make a successful adjustments to all of life must not be forgotten. "The teacher remains, potentially, the artist of character."

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