

MR. SCOTT'S ANALYSIS REVIEWED

By ROBERT STANLEY WEIR

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UNDER the caption of *The Triumvirate Analyzed* there appeared, in GOLF ILLUSTRATED for March, April and May last, a series of articles purporting to be analytical of the methods of Braid, Vardon and Taylor, and I may add Duncan, which, in common, I am sure, with all the readers of this magazine I have read with much interest. The writer of these articles, Mr. J. Albert Scott, has confined his analyses to the plain tee-shot with the driver, assuming, possibly, that the swing with iron clubs does not radically differ from the swing with the wood. If Mr. Scott has neglected for this reason to make a special study of the iron play of the champions it is, I think, to be regretted. Iron play presents the clearest and most evident revelation of any player's essential style and a close study of the triumvirate at work with their iron clubs might have modified certain generalizations as to their methods contained in Mr. Scott's articles.

For the zeal and obvious sincerity of Mr. Scott as a seeker after golfing truth there can be nothing but praise; and for the soundness and excellence as well as the freshness of much that he has put before his readers there can hardly be two opinions. That he is a careful observer is shown by the original diagrams which establish that the open stance really gives the player a middle position *quoad* the ball although one, apparently, in rear of it (GOLF ILLUSTRATED March, page 38). His analysis of the overlapping grip is the most detailed and accurate I have read, although I might have added as one of its special merits its automatic provision of an open right palm. The discovery that tension is much promoted by a minimum of relaxing in the grip I also regard as very valuable. Good, too, is the likening of the golf impact to the throw of a stone underhand. Mr. Croome, I think, gave it to the world first; much better is it than the simile of a carpenter and his hammer. The stone-thrower follows through; the carpenter cannot. Very wise, too, is the advice: never to begin the downward swing until the upward swing is completed. The only fault with the stereo-photographs is that they are too few.

Mr. Scott having devoted himself exclusively in these articles to a consideration of the plain drive there is perhaps a certain danger that some will consider that stroke the key to the whole game. It must be remembered, however, that even from the teeing-ground there may be more than one kind of stroke; while the manipulations required for the use of different clubs on a windy day, on rolling ground, on

sun-baked or rain-soaked turf, on fast or slow greens are of no small variety. A consideration of the plain tee-shot and of that alone is a very incomplete study of any player's game. As Mr. Scott's articles stand, the caption *The Triumvirate Analyzed* is much too broad. Their plain shots from the tee or through the green with driver disclose but a small part of their superb play.

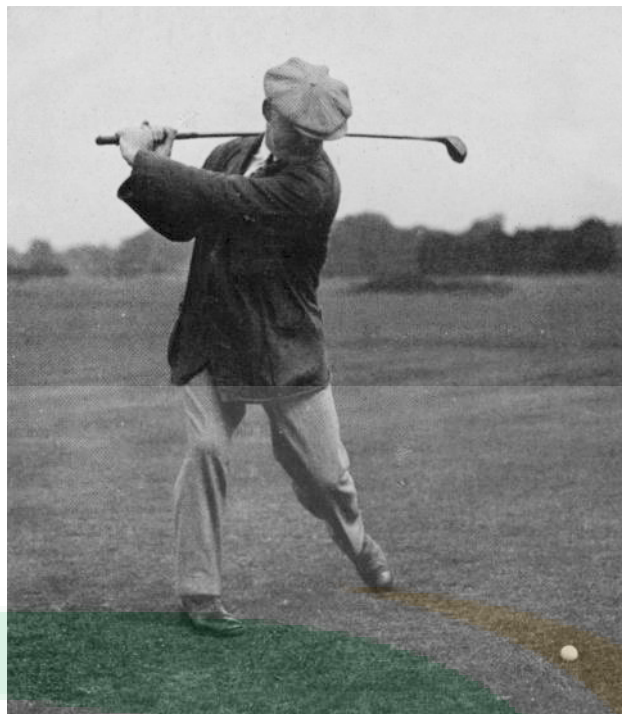
I must remark, as I begin, that there is one assumption, indeed there are two, underlying Mr. Scott's able articles, that may not, I venture to say, be entirely justified by facts. One is that Braid, Taylor and Vardon play their tee-shots with the wood in the same way; the second is that there is only one scientific method of executing those strokes. Now there is no doubt that Braid and Vardon as upright swingers are to be distinguished from Taylor as a flatter swinger; while George Duncan's clubs move on a plane still more vertical than even those of Braid and Vardon! Braid and Vardon certainly lift their clubs and hands higher than their co-triumvir Taylor, and advance the right foot less by inches; moreover, they give decided bends to their left elbows in the swing-back; which Taylor does not. Edward Ray has shown in *Inland Golf*, and a very sharp observer is Edward Ray, that Vardon drives largely for carry, Braid and himself for carry and run. Taylor, it is well known, plays for a maximum of run. These facts go to show that the champions cannot be classified under one stereotyped style. There is, in point of fact, no special triumvirate drive or method. The three do not fit one groove. I have observed that Mr. Scott has rather less to say of Taylor than of Braid and Vardon and pictures him less. The reason, I venture to say, is that Taylor does not fit into the general scheme of description, that includes the other two; and Mr. Scott has been unconsciously influenced by the fact. For example, the stances of Braid and Vardon are shown, closely resembling each other; but not that of Taylor. It is quite clear that the four players named do *not* adopt the one style and yet all are unquestionably great golfers. One description certainly cannot properly apply to them all. I may as well point out here that the "straight" left arm which Mr. Scott commends and would have us believe to be a mark of "triumvirate" play is not a feature of Vardon's style: as witness his decidedly flexed elbow below and at page 108 of his book "*How to Play Golf*." Nor, unless he has recently changed his form, is it a feature of Braid's as witness the pictures in "*Advanced Golf*." Taylor alone exhibits an unflexed

GOLF ILLUSTRATED



HARRY VARDON

Left arm flexed at elbow, right elbow extended, the hands high, noticeable pressure remains on left foot



J. H. TAYLOR

Unflexed left elbow, hands raised to minimum height; swing less vertical than Braid's, Vardon's or Duncan's; right elbow close in

elbow in his well known style, for there is a suggestion of flexion in Duncan too. The only points on which I should be inclined to say that the triumvirate absolutely agree are two: they bring their wrists under the club-shaft at the top of the swing, and they contrive to time the stroke accurately. Apparently adopting a common grip they differ in the use of it; differ in stance; differ in height and plane of swing; differ in foot action; differ in manner of follow-through. I venture the assertion that an intelligent golfer like Duncan or Sherlock or others that might be named could, with back to the teeing ground, tell by the course of the ball by which of the triumvirate it was driven on experiment.

I feel obliged to remark, in the next place, that any formal or serious analysis of the drive or other stroke should be presented in clear and unambiguous language. I would not insist that the technical terms of physics or physiology be employed but, certainly, loose and inaccurate terms should be avoided. This much is due to the game itself and to beginners. It is wrong, therefore, to describe the triumvirate as taking the club "straight back" or "straight forward." These expressions are quite inaccurate and therefore misleading to the inexperienced. There are, of course, no "straight" motions in golf: all is of arc and curve. What Mr. Scott means by "the straight backward swing of the hands" nobody can precisely tell. This should be a matter for detailed, careful guidance; for, in the backward swing, the stroke as a whole is made or marred. Mr. Scott has singularly little to say of

the start of the swing, the truth being that the essentials of golf are not all revealed to eye or stereopticon.

Again, the casual advice to swing "straight forward"—to "keep the club-head going *straight* after the ball as far as you can reach" I regard as dangerous advice although it has often been given before. It shows disregard of the circularity of the swing, which "reaching" would tend to destroy. Better advice would be: Preserve the circularity of the swing: Do not keep the arms *too long* in the line of flight; for, after all, the part of the swing that really matters is a very few inches before and after impact. Mr. Travis made that clear long ago.

"Straight left arm," too, means nothing; an unflexed left elbow would be intelligible. Besides, in so far as it suggests an outward extension of the left arm, it is very misleading.

Another inexactitude of expression born of failure to distinguish between cause and effect is contained in this sentence:

"At the moment of impact the hips are thrust forward or rather the right hip is driven forward and presses against the left forcing it straight forward, and thus we get a feeling of the lower part of the back being forced into the stroke."

Then follows a reference to the saying attributed to Mr. Edward Blackwell that he "always wants to feel his back muscles working." The great Vardon also, somewhere writes about this hip business without explaining why or wherefore, and I have known

GOLF ILLUSTRATED



JAMES BRAID

Left elbow unflexed, in this respect more like Taylor than Vardon or Duncan



GEORGE DUNCAN

The most upright of swingers. Square stance, slightly flexed left elbow; hands very high necessitating extended elbow (right)

golfers sedulously trying aimlessly to accomplish it. How is it brought about, for neither Vardon nor Mr. Scott tell us? It is brought about by keeping the head and body in the same plane, for an appreciable moment after the impact, that they held before it. The head is turned sideways, often looking after the ball, but still bent down in the attitude of having one's ear to the ground; it has not followed on; the impetus of the stroke, *restraining* a follow-on, causes the left hip to go forward. This feature is particularly noticeable in the play of Vardon, Mr. Blackwell and, I may add, Mr. Jerome D. Travers. For the same reason the muscles of the back feel the impetus; but neither those muscles nor the hips enter into the stroke; on the contrary, they *resist* it; hence the sensation of "back muscles working" and hips thrust forward.

All that Mr. Scott says about the hips being thrust forward and the back muscles working should have been ascribed to the importance and necessity of keeping the head in one plane.

But the most serious errors in Mr. Scott's golfing philosophy are his conceptions of the backward swing. His errors are three (the usual number of shining graces or deadly sins), and relate to the hands, the wrists and the body. The motions of these are of course closely inter-related; for the golfing swing is one not three; but it is more convenient to discuss them apart. To make sure that I do not misapprehend the unity of the back swing as Mr. Scott presents it I give my version of his theory succinctly as follows:

The hands are swung "straight back" to about the height of the right ear; the wrists then allow the club to drop quickly behind the head; but the action of the hands as they move up to the level of the right ear is not independent; their action is caused by the turn or twist of the body; the club is not moved by the arms of themselves; it is the body that directs them. This is a condensed summary of Mr. Scott's theory of the back swing and, as I am most anxious not to misrepresent him I shall quote, by permission, from a letter written to me by a mutual friend who is favorably inclined to Mr. Scott's heresies, as I cannot but think them, and has written to me about some points on which I was and still am sceptical. Doubtless he is of opinion that it is I who am heretical. It will be manifest at least, that my esteemed correspondent understands Mr. Scott pretty much as I do.

"A very simple experiment," writes my friend, "will show you what Mr. Scott means by saying that the arms are not taken around the body by any independent action of their own. Take a driver and address a ball with the open stance. Then, directly back of the line of flight, but out of reach, place some objects. Swing the club-head directly at this object allowing the body to accommodate itself to this movement of the hands and arms by pivoting. You will note that whereas you have made no attempt to get the arms around the body they naturally follow that direction under no im-

pulse of their own but under the dictation of the body twist."

Of course, I think there is a psychological explanation of the situation supposed by my good friend. The arms are accustomed to go by a certain route and the body to twist in a certain way. I am asked to place an object out of reach and yet to swing at it. My arms and body naturally treat the whole experiment as a joke and go by the accustomed path. However we shall deal with this body-twist thirdly and lastly in this homily. Meanwhile, let us hope we understand each other or rather that we understand Mr. Scott.

Let us, first of all, consider Mr. Scott's idea of how the British Triumvirate take the hands back. They take them "straight back," we are told, to about the height of the right ear. And yet he considers the heel of the left hand as pivotal of the hands: (April Number page 20) as the point around which the hands turn on going to the level of the right ear. Mr. Scott does not perceive that the pivoting of the hands round the heel of the left hand, usually referred to as the turn of the wrist, may be done with greater or less turning, resulting in more or less horizontal swinging; of which more anon. He bids us *swing* the club "directly backward" and yet declares in another place:

"It was the twisting or turning of the body at the hips and the rotating motion of the shoulders that have taken the hands to a place that allowed the club-shaft to be dropped by the wrists."

When Mr. Scott tells us to swing the club with the hands (his description of the triumvirate frequently taking the form of instruction to the reader) I have no quarrel with him, but when he repeatedly insists in other parts of his writing that this is done by body-twist I find a serious inconsistency in his language. However, I am chiefly anxious to understand his theory and I am sure, with my friend whose letter I quoted, that he holds to the body-twist as the real motive influence of the swing-back.

I shall return to the question of body-twist in a moment desiring first to dispose of Mr. Scott's



JAMES BRAID

This left springing finish indicates very free wrist action. Observe the left foot

heresy as to the hands. If Mr. Scott had stuck to the notion of the heel of the left hand being a pivot for the hands he might have come upon the truth. But he leaves that after casual mention and reiterates that the hands go "straight up to the right ear." But he quite omits to describe the manner of the going. So long as we grip correctly, he tells us, the hands will go up correctly. Well, one would say that if the movement of the hands depends for direction upon the grip it does not depend upon body-twist; unless, indeed, Mr. Scott means that it depends upon both. Well, let us say it depends upon both; the refutation will be the same; for we find that Braid, Vardon, Taylor and Duncan, using the same grip by choice and the same body-twist by necessity, do *not* place their hands at the same place at the top of the swing. Braid and Vardon come nearest to Mr. Scott's standard of the right ear; but Taylor's hands are below his right ear and Duncan's above his! Obviously there is something wrong with Mr. Scott's theory for we find

there are differences in the triumvirate at the very start of our analysis. Taylor's hands are barely up to his shoulder, while Duncan's are over his head! It would be idle to say that the differences are due to differences in physique, when the reason lies plain before us. What is the reason? It is that the great players named do not turn the left wrist inward at the beginning of the swing to the same degree. An early and rapid turn of the left wrist as in the case of Taylor produces a flat or horizontal swing; a tardy turn gives you the almost vertical swing of Duncan; Braid and Vardon, about equal in this particular, turn their wrists more than Taylor but less than Duncan. Body-twist then has nothing to do with these different planes of swing but wrist-turn has. The arms, therefore, guided by the initial turn of the wrist, hand or forearm, must have a certain independent action of their own, according to the style of the player. These variations in style which are quite as interesting as resemblances show that the masters of golf do not play in one stereotyped fashion.

There is another doctrine of Mr. Scott's, one with regard to wrist action, which I think either quite mistaken or unfortunately expressed—the teaching, I mean, that at the top of the swing the club-shaft should drop quickly and sharply at the instance of the wrists. We are all agreed that the wrists should come under the shaft at the top of the swing, but is not this a relatively gradual movement from the beginning, as explained above, when accounting for the different planes in the swings of the masters of golf? Taylor is very careful to warn his pupils and readers on this point. The turning of the wrists on the way to the top of the swing "commences" he says, "at the moment the club-head leaves the ball and finishes at the top of the swing." Mr. Scott seems to see a very different method adopted by the triumvirate, including even Taylor, as a few citations will show:

"_____ the hands will be stopped when they have reached a point about the height of the right ear and the club-shaft will drop to the position shown in the photographs [the top of the swing] by a sharp bending down of the wrists and the wrists only.

"It is this *drop of the wrists* without slackening the grip or giving way anywhere that sets the tension for the down stroke.

"_____ when you drop the club into position with the wrists, it will just miss the head, the back of the head and finally come to rest (?) almost touching the back of the



GEORGE DUNCAN

The hands have almost gone full circle, and the body is admirably restrained. How these wonderful players differ in style! What they agree on is the invisible timing of their power

neck close to the base of the skull."

Over and over again we meet with reference to the dropping of the club or, worse still, the dropping of the wrists. Once more, I am most anxious not to misunderstand Mr. Scott and certainly not to engage in a logomachic dispute. Let me say, therefore, that if by dropping of the club or of the wrists Mr. Scott means the completion of a swing initiated by the wrists or hands—a semi-circular swing of the hands without sudden bend or break in it but which brings the wrists under the club-shaft at the finish, a swing which is a beautiful curve from start to finish and is, so to speak, all of a piece, I am in full accord with him; and quarrel only with his choice of words. But if he means by a drop of the wrists what is ordinarily understood, i. e. a flexing of the wrists, I must entirely dissent. And yet I am free to say that although the *feeling* at this point is that the club is *bent*, to the eye it has all the appearance of a drop. I have asked onlookers to say, in my own case, whether I am bending or dropping the club, and although I maintain the firmness of control that goes with strict bending, observers frequently plump for "dropping." The eye and stereopticon, as I have remarked, often mislead. I must also admit that "dropping" is perhaps more "apparent" in the swing of Vardon and Braid. In Taylor's swing there is no suggestion of dropping the wrists at all; they are obviously bent and under constant control. The swing is strictly all-of-a-piece.

We now come to what I consider the most extraordinary of Mr. Scott's heresies and shall strive to convince both him and his readers of his errors. Mr. Scott propounds the doctrine, as I and my friend, whose letter I have quoted, understand it, that the arms, as they go back are, so to speak, "under the dictation of the body." Let us have a few quotations from Mr. Scott that we may be quite sure of his contention. After describing the "drop of the wrists" to which I have just referred he goes on to say:

"Now, note carefully, you have not carried the hands around the body a single inch by any independent movement of their own. They have simply been swung backward and upward—it was the twisting or turning of the body at the hips and the rotating motion of the shoulders that have taken the hands to a place that allowed the club-shaft to be dropped by the wrists to its correct position. In no other way can the club be swung directly to this point. If the hands are swung around the body and the shoulders are allowed to work properly, then the dropping of the wrists, etc. etc." (April, GOLF ILLUSTRATED page 21).

It is necessary to make allowances for Mr. Scott's way of expressing himself at times. Nobody contends that "the hands are carried round the body." They usually remain at the right-hand side. It is sometimes contended with more truth, that *the club* goes round the body. Nor does anybody seriously contend that hands or arms have an absolutely independent motion of their own. Being well socketed to a serviceable trunk, usually warranted for at least three-score years and ten, they are in a measure subservient thereto. But when Mr. Scott argues that "it is the twisting or turning of the body at the hips and the rotary motion of the shoulders that have taken the hands up" I confess I rub my eyes and read him twice, nay thrice, to make sure I read him aright. In no other way, we are told, can the club be swung directly to the point where the wrists are dropped! Is it the hips, then, or shoulders that do the swinging? Have



HARRY VARDON

This finish suggests a perfectly timed and enormous sweep by powerful and swift arms, with less nip or snap than Braid

the arms a purely passive action? Surely this theory as stated is the extreme of phantasy. That there is a close and interdependent co-ordination between a partial rotation of the body and the movement of the arms, for that matter of the feet and legs as well, is elementary; but to contend, in effect, that the body is the master of the swing and the arms purely passive instruments (for I can make nothing else of Mr. Scott's statement) is the most extraordinary golfing proposition I have yet read. The most cursory observation shows that the body alone, by rotation, cannot make the club traverse an arc of more than ninety degrees; that the hands alone cannot quite reach a semi-circle, and that we need body, arms and wrist combined to complete the golfing circle. Mr. Scott says in one place:

"The body must be twisted to the right and it is only a matter of letting it continue to do so as the club is swung back to get it fully and in the proper way."

Continue to do so. That is impossible.

There are limitations to body rotation and

this Mr. Scott seems to have completely overlooked. Curiously, Mr. A. C. M. Croome in GOLF ILLUSTRATED for March comes perilously close to falling into the same pit as Mr. Scott. "Swing is body-action produced by the pivoting of the trunk round a fixed back-bone," says Mr. Croome in an article entitled "An Appeal to Nature." But how far, let me ask Messrs. Scott and Croome, can a human trunk comfortably and without doing extreme violence to itself pivot round its own back-bone? There may be contortionists who can exceed a small quarter-circle but imitation of them is not to be commended. Mr. H. S. C. Everard long ago summed up this whole matter, with the help of a diagram, in Chapter V of his book on *Golf*. The wrists, the arms, the loins and back, he points out, are the several sub-divisions of golfing power which are *mutually contributory* and blend into one harmonious whole. "Driving will be good or the reverse according to the accuracy with which they *synchronise* at the psychological moment of impact."

If any further word needs to be added by (Continued on page 49)



J. H. TAYLOR

This finish shows great economy of movement. The sweep has been very swift but concentrated. Having done the work the club indulges in no flourishes. Taylor differs from his fellow-players in almost everything but timing

MR. SCOTT'S ANALYSIS REVIEWED

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way of refutation of what has been imputed to the triumvirate I will point out that there is absolutely no room for variation in the direction of body-twist. One may swing more or less flat or vertically, turn the wrists more or less *in* but, like the opening of a door, loin rotation is fixed. What, then, determines the varied angles at which Braid, Vardon, Taylor and Duncan take back their clubs, the varied heights of their tops of swing if not the arms or at least the hands? In fact the *pronator* of the forearm is the rudder and initial power of the whole back-swing, making it horizontal or vertical and saying whether it shall go beyond, below or beside the right ear or other feature. The rotation, twisting or turning of shoulders, body and hips varies, not in direction, but only in degree. It has a limited radius; while the arms will give you the extravagantly full swing of Lady Margaret Scott or the restrained one of J. H. Taylor.

Pondering Mr. Scott's theory of body-twist and wondering what led him to adopt it and others to approve I have arrived at a possible explanation although not a justification. It is this. The partial rotation of the shoulders in the back-swing coincides exactly with the movement of the arms; save, possibly, for the bending of the wrists at the top, which, though it should blend smoothly almost imperceptibly with the whole cyclic swing, seems to be an addition to it. Shoulders and arms, then, move in unison. This coincidence of movement has I believe suggested this theory to Mr. Scott and I daresay the eye and camera have given it apparent confirmation. The fact is, however, that the hands move much more rapidly than the shoulders; for they cover several times the distance in the same time. Measure the arc the shoulders describe; measure the arc the hands simultaneously describe and you have the precise relativity of the two movements—a nice problem for any physio-golfer who could give us the arithmetic of it. This time-relation is the source of Mr. Scott's theory; but the deduction that the body swings the arms is fallacious. The body cannot swing the arms faster than itself; nor for a greater arc than itself describes. It coincides with the arms; possibly it may suggest or "dictate," as my correspondent says, the line of retraction; more it cannot do.

I have now concluded as far as available time and space will permit the ungracious task of criticism. It may be thought I have put too much stress upon mere verbal expression, but really, in that respect, I have exercised restraint. It is of the highest importance that the movements of golf-action be accurately and not loosely described. An excellent example of simple but scientific description of *The Golfing Swing* has been given by Mr. Burnham Hare in his little volume published by Methuen & Co. Remarking upon the difficulty of describing a series of exceedingly complicated move-



ments in language that admits of but one interpretation, Mr. Hare, in his analysis of the back-swing, shows that as far as the body and arms are concerned there are two movements which begin *simultaneously* and proceed *in strict conjunction*. They consist, first, of the more or less gradual pronation of the left hand, wrist or forearm, influencing the whole arm and both arms until both wrists come to their proper place under the shaft at the top of the swing; second, of the forward rotation of the left shoulder. As I have pointed out the first movement permits of much variety as to plane and height of swing; the second cannot well exceed ninety degrees. These two movements explain in what respects the triumvirate agree and differ. Chiefly they must agree in "timing of the stroke"; but I believe Edward Ray is quite right in saying that neither he nor his confrères strike the ball in precisely the same way. To analyze the triumvirate, indeed, would demand three separate and distinct analyses, and still a fourth would be required for George Duncan, and a fifth for Edward Ray.

POSTSCRIPTUM

Mr. Scott is excellent in this perfectly sound and orthodox sentence: As the hands were leaders in the back-swing so they are leaders in the down-swing. But I cannot reconcile the first part of it with the theory that body-twist is the agency that takes the hands or arms back.

It is much simpler, avoiding such terms as body-twist, body-turn, etc., to speak of the partial rotation of the shoulders. If the shoulders are turned, loins and hips must concur.

The injunction to *swing under the head* is simply a variant of keep the head still, keep the "eye on the ball." It is hardly an improvement because, taken literally, it is impossible. What is really meant by all three is *keep the head in one plane of swing*.