

A new teaching model

Introduction

Golf must be the only sport where the experts are at such variance in fundamental issues concerning optimum technique and error correction.

The model “Laws, principles and preferences” (WIREN, 1990) was the attempt to find a common ground of agreement that leaves room for individual peculiarities of golfers and preferences of teachers.

This model was a good starting point, but it lacked applicability, because it was in a way too detailed (14 principles) and in a way too general (only five impact factors, principles not described in detail etc.). Also, in the time since this starting point, no further thought or development in the direction of providing a usable, practical and simple model for the practitioners in the field has been made.

As a consequence “Laws, principles and preferences” plays no role in today’s teaching. This paper wants to present a practical model for the golf instructor and player.

The model

The model consists of impact factors (there are in fact eight), basic motions (six), principles (three) and preferences (infinite).

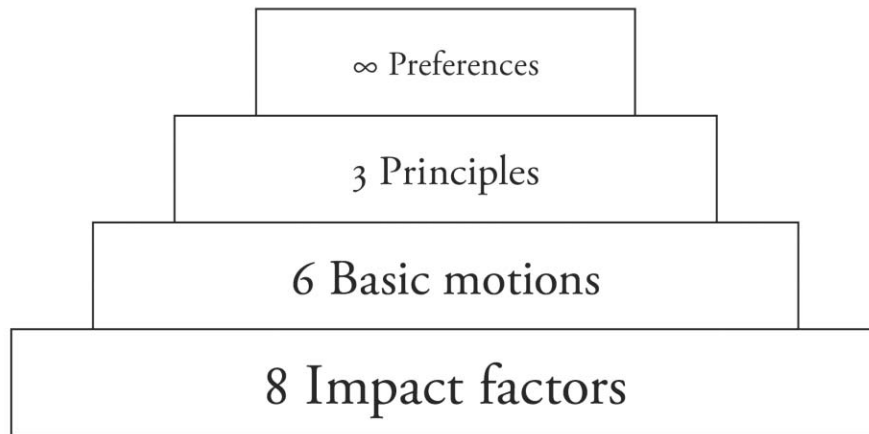


Table 1: Organization of the influences in correspondence with their significance

I. Impact factors

The eight impact factors are inevitable; they have law character. To play a straight and long shot from short grass, the sweet spot must hit the ball at the correct spot and has to move in the right direction at a high speed. The eight factors are:

1. Club face alignment
2. Effective lie
3. Effective loft
4. Horizontal angle of attack (path)
5. Vertical angle of attack
6. Horizontal centeredness of hit
7. Vertical centeredness of hit (amount of ground)
8. Club head speed

II. Basic motions

On this irrefutable base the next level are the six basic motions. Although it would be imaginable to hit a ball without employing these motions, it would not be very effective. Even if the size and their chronology vary considerably, all good players employ these motions.

1. Body turn
2. Cocking/uncocking of the wrists
3. Arm rotation
4. Raising/lowering of the arms
5. Swinging the arms behind/in front of the body
6. Bending of the wrists

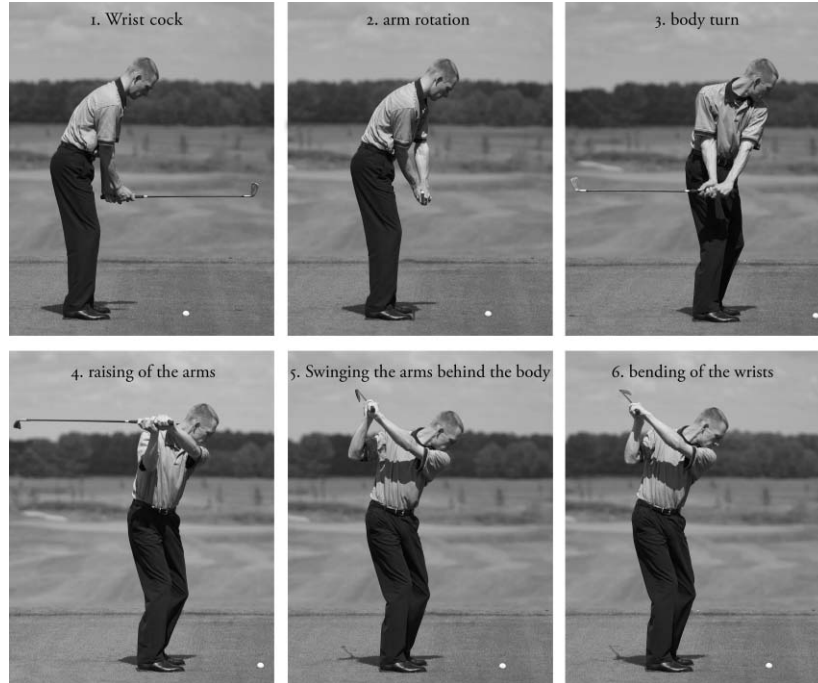


Illustration 1: 6 basic motions

III. Principles

Even the average golfer succeeds occasionally in juggling his basic motions so that he hits the ball well. But without the talent of a tour player or his amount of practice, he should follow the three following principles:

1. The club face should be square throughout the swing.
2. The club should stay in the correct plane.
3. An efficient transfer of energy should be ensured by a correct timing.



Illustration 2: 3 principles (club face, plane, timing)

IV. Preferences

The preferences make room for individuality: Depending on the golfer's anatomy, strength, flexibility and skilfulness the golf swing will look differently and the basic motions may be executed with different intensity.

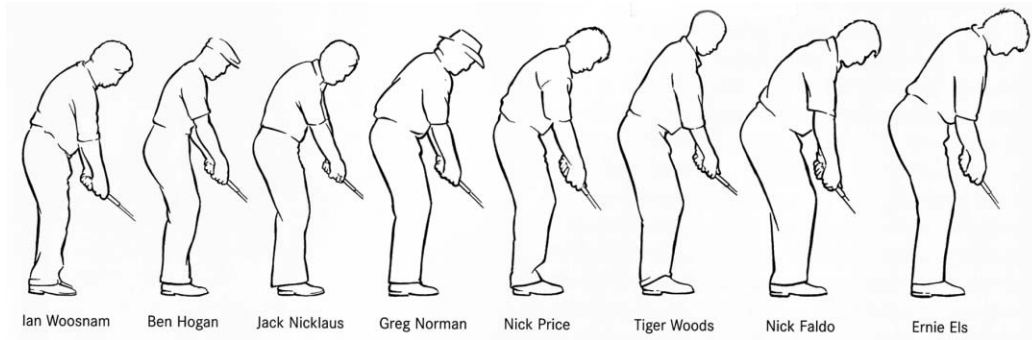


Illustration 3: preferences¹

Principles in detail

I. Clubface:

The club face is influenced by many variables: forearm rotation in combination with wrist cocking, raising of the arms, bending of the wrists and grip. But if we assume a correct grip and plane, it comes down to just wrist bending: Dorsi flexion of the left wrist opens the club, a palmar flexion closes it.

Since the golfer starts with a left wrist that is bent towards the back of the hand about 20 degrees, he has to ensure a palmar flexion of about 20 degrees till impact to achieve a flat left wrist. A flat left wrist at impact is important, because the hands have to be in front of the ball to ensure a downward stroke. But moving the hands in front of the ball opens the club face. And that is the reason why it has to be closed by bending the left wrist towards the palm and the right wrist towards the back of the hand correspondingly.

When does this bending take place?

To understand why it should not happen right from the start in the take away, one has to know that a palmar flexion with the left wrist almost always goes along with a rotation of the left forearm (supination). This would make the club too flat. A better time would therefore be the second part of the backswing. As soon as the club reached parallel, the left forearm may supinate a lot. The golfer will then reach a position where the left wrist is flat and the club is still parallel to the original plane.

Done in this fashion, the golfer will develop a technique that enables him to hit both long and short clubs.



Illustration 4: a square club face (l.), a closed club face (m.) and an open club face (r.)

A higher handicapper may now keep this flat left wrist till impact to make sure he does not slice. A better player will bent his left wrist again towards the back of the hand to achieve a better lag (angle between left arm and club viewed from face on). He will still be able to square the club face in the second part of the downswing by palmar flexion of the left wrist.

The reason why a better player should also straighten his left wrist in the second part of the backswing lies in the danger of pointing the club too much across the line at the top and coming into the ball too far from the inside as a result.

II. Plane:

The club should always stay in the same incline. But it can not stay on the same plane. By raising the arms the club will be lifted above the original plane in the second part of the backswing and will drop back onto it in the first part of the downswing.

The club is called steep, if the club head is further above the plane than the grip end. And it is called flat if the club head is further below (or less above) the plane than the grip end.



Illustration 5: the plane of club, arms and shoulders

III. Timing

To hit a golf ball far, we need a power that only the body can accumulate. But a huge effort of the body is worthless if the power is not transferred properly onto the club and finally onto the ball. To achieve this efficient transfer of energy the use of hips, shoulders, arms and wrists has to be coordinated well. Even before the club reaches its highest point, the muscles of legs, hips and trunk are activated. This power is transferred onto the shoulders, from there onto the arms and finally onto the club. By decelerating one body part, its power is transferred to the next link of the chain.

This part of the theory is quickly accepted by all; as it is clear to see in the still pictures and full motion images of the better players. The great challenge is to achieve this result with handicap golfers who usually slice. We are sure that many teachers will identify with this. A student is shown his swing; it features a wild early throwing of the club at a very steep angle down to the ball. The student is advised to “hit later” and retain some angle. The student not only fails to get better, but he actually gets worse. We know that a better understanding of this problem and an efficient way to fix it will not only improve golfers vastly, but could result in many golfers playing more golf, not quitting the game prematurely.

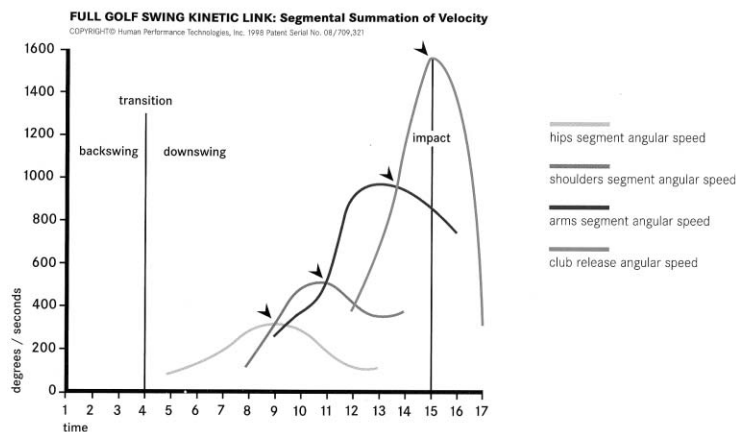


Table 2: the speed of hips, shoulders, arms and hands²

Application:

The important thing is to teach these principles in the correct order. It is easy to see that almost all amateur golfers release their club too early. But it does not help them at all to delay their release as long as they are slicers.

An early release shallows the angle of attack and closes the club face. So if anything it helps someone who has got an open clubface and a swing path from out to in which lets the club come into the ball on a very steep arc. The correct procedure with the average slicer would therefore be:

1. Close the club face first by strengthening the grip and/or palmar flexion of the left wrist.
2. Shallow the plane coming into the ball by delaying the body turn as much as the forearm rotation and encourage the lowering of the arms.
3. If the golfer now hits behind the ball and hooks he may start to delay his wrist action and hit later. This can be supported if he moves his hips laterally. As a consequence of this delayed hit he will move the bottom of his swing forward and avoid the fat shots that may have occurred after step 2.

This model does not only help the slicer. The better player's mistake is a low pulling hook. This shot has threatened to ruin the careers of some very notable golfers including winners of major championships who „suddenly lose their game“ as the golf magazines write.

If we assume a good grip, the face can only be closed by an early release (which practically never occurs in a tour player's swing) or a palmar bending of the left wrist. But a bowed left wrist is rarely seen at the top of the swing. It rather is a result of wrong plane in the backswing, negatively affecting the second part of the downswing. If the club is too steep (across the line) at the top of the swing – like with so many top players (i.e. Tiger Woods, Davis Love, Greg Norman etc.) – it will flatten in the downswing and become too flat coming into the ball. As we have already mentioned, a flat shaft often goes along with a bowed left wrist, because the right wrist can not bear the extreme pressure of a supinated forearm with a bowed wrist position. Now the face closes, which also decreases the loft. This leads to low hooks. But since the club hits the outside of the ball the result is not only a low hook, but a low pull hook. The player seeing the ball starting to the left and not being aware of the true causes, instinctively swings more to the right to keep the ball from ending too far left. This makes the club even flatter and increases the problem. After a while the player delays his hit (maybe by turning his hips more – a common “tip” in this situation), which may reduce his hook but delofts the face even more. With today's drivers (7 degrees of loft and less), the player can not get the ball into the air anymore. This motion will also ruin the pitching, since the wedge comes into the ball without any bounce so that even the slightest fat shot will be punished severely. The cure is a better forearm rotation in the second part of the backswing (so that the club does not cross the line anymore) and a steeper club coming into the ball with a left wrist that stays in a cupped position much longer. Instantly, the better golfer achieves straighter shots with more height – one of the most important aspects of tournament golf.

Conclusion

The model “laws, basic motions, principles and preferences” gives the golf instructor a tool that makes it easier to identify what has to happen in a golf swing (impact factors and basic motions) what should happen (principles) and what may happen (preferences). From here he can go on and analyze the ball flight, draw his conclusion on the impact and find out what the club and the body are doing to cause this kind of impact.

References

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Wiren, G. (1990): The PGA Teaching Manual. Palm Beach Gardens.

1. From: Leadbetter, D./Rubenstein L. (2000). The fundamentals of Hogan. New York. P. 37
2. From: Leadbetter, D./Rubenstein L. (2000). The fundamentals of Hogan. New York. P. 101
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