LOADING, STORING AND RELEASING ENERGY

You know the old saying, "a picture is worth a thousand words"! Let's think about that, a picture can be construed as many thoughts or feelings, wrapped up in one package. If we can put a picture in our student's mind…that effectively conveys the thought that we would like for them to remember, they will have a vivid picture that they can replay at any time.

Kind of like zipping an e-mail. Once a person gets an e-mail that has been zipped, all they have to do is open it and voila, many words…maybe thousands, that were zipped into a nice little package so that the computers involved, didn't have to send and receive all of the bits of information associated with thousands of words but…just one package as a whole.

You've probably also heard the statistics about how much of a speech we remember after one hour, one day, three days or even a week! It is difficult for our students to remember very much of the things we ask them to do unless we can put a picture of what we are trying to achieve…in their mind. Then they can always call that picture back into their conscious mind and with that picture they have a flood of thoughts that might convey many things that both of you had worked on earlier.

Ever tried to convey a thought to a student and they just didn't seem to get it? Maybe even to the point that you became frustrated. If you can get into their world to paint a picture of what they are familiar with, you might see their eyebrows raise a little as they nod their head, when you relate what you are trying to convey to a picture of something that they understand a little better than they do, the golf swing.

Into their world? Uhhhhh, how do I get there, you might ask? You will get there by becoming familiar with their background. I have a detailed questionnaire that I give to my students to complete. By becoming familiar with their past, I have a better idea of what they might relate to. Some

pictures, virtually everybody can relate to but this helps me to use things that they are familiar with when possible.

Just think, all they have to do is recall the picture that they have stored in their memory…and they have something that will give them information each time they think of it. Do you notice everything about a picture the first time you see it? Not likely! Each time you look at it, you may see things that you've never noticed before.

Correspondingly, each time your student can recall the picture that you've put into their mind, they will understand more and more, what you want them to understand. Would they be able to recall all of the things that you associated with that picture if they tried to think of each and every word you had used? Not unless they put the picture back in front of their conscious mind.

I am going to give some examples over the next few issues of American Golf Pro Magazine, which create pictures that you can use to convey thoughts. You might want to call these analogies. Webster's Dictionary defines "ANALOGY" as follows: resemblance in some particulars between things otherwise unlike: similarity: correspondence in function between anatomical parts of different structure and origin.

In an effort to stir up your minds to become like natural springs that have a never-ending source of enlightenment, I would like to give some examples that I have formed in my mind that aid me in teaching my students. Amazingly, these analogies that sometimes just seem to jump into my mind out of mid-air…serve to help me to understand things better than I had reasoned in the past.

Imagine that, pictures that I have formed in my own mind…further educate me about the golf swing, human nature, physics and the learning process. I am just an average person with an average mind, which ought to prove that virtually anybody can experience what I have been experiencing for many years. Whereby each of you, based upon your life's experiences such as; your temperament, occupation, hobbies, sports you have played in the past, things that you have struggled with for many years and have thereby learned

tremendous lessons…and any other things that go into the creating of your disposition, intellect, interests, emotions and paradigms can become sources of knowledge to us all. That is, if you will share your knowledge and ideas with us.

Sometimes, all we need is a little priming to open up our minds to inspired imagery, concepts and many other thought processes that are seemingly out of reach. I have no doubt that after reading what little I have to offer, many of you will become sources of information to all of us as you open your minds to those images that are the result of your experiences in life. Experiences that make you unique and therefore, able to see things differently than the rest of us.

The first analogy that I would like to use is comparing the golf swing to a compressor and air tank. As I explain this, let your mind create the corresponding pictures. There is a ½" hole where the air can escape on top of the tank. You put a golf ball on top of the hole. Your goal is to shoot that ball as high into the air as possible.

There is a gauge on the side of the tank that will show the PSI of air pressure. The gauge goes up to 100 PSI as…that is the maximum that the tank will hold without risking damage. There are two valves on the side of the tank that will let air escape through the hole in the top where the ball is. One is a valve that you turn with your fingers; we will call it a "rotary" valve. When turned five revolutions, (which takes about 5 seconds) it is completely open. The other valve is one that you hit with your hand; we will call it an "impact" valve. When you hit it, it will release virtually all pressure from the tank in one second.

You now have all of the facts that you need to send that golf ball skyward. However, there are a few things that you need to consider to send it as high as possible. Let's think about them.

- You need to load as much pressure as possible…in this case, 100 PSI.
- You will also want to make sure that there are no leaks because leaks would reduce the amount of pressure that is available when you use one of the valves to release the air.

- You will need to decide which valve you will use.

Can you see how the wheels inside your head are turning as you think about the best way to send the ball as high as possible? This is a simple picture that you can paint with words to your student. Personally, I wouldn't use this analogy with a beginner unless they are pretty analytical. People can get overwhelmed very easily and decide to work with someone else if you make things seem too difficult to understand in the beginning

You can explain to them that our first goal in the backswing, is to load PSI or…ENERGY! After loading as much as we are able, we want to store this energy until the last possible second before impact. When we do start to release the energy, we want to do it as quickly as possible and we want to release ALL of it. Any energy left over after impact becomes wasted energy.

If I have a student that has made the commitment to invest time in developing a good golf swing, I might use this as a picture of what we will be trying to achieve with their swing over a period of time. They will need to understand that this project is virtually never-ending. The more they refine their swing, the more efficient it will become. You will want to make them aware of four terms that will be used to describe their RELEASE.

- EARLY
- LATE
- SLOW
- QUICK

For the sake of simplicity, I will be referring to a right-handed golfer. EARLY and LATE refer to the point in the downswing that the release starts. Let's think of the release starting when the angle of the left arm and the shaft become greater then 90 degrees or more importantly, the cup in the back of the right wrist starts to flatten. SLOW and QUICK refer to the duration of the release. Let's think of the release as being finished when the right arm is fully extended and has rotated past the left arm. If the student doesn't accomplish both of those in the swing…they didn't finish their release. Believe it or not, many people don't ever finish their release in a swing.

Technically, these examples are just guidelines. The release would be finished before the events that I described take place. Everybody is different and so defining these facts for each person would be relative to that person's swing characteristics. However, I find them to be the simplest in helping the individual to understand principles of releasing energy in the golf swing.

Now, let's relate the compressor and tank to the swing. The process of the compressor loading energy into the tank is like the muscles loading torque into the body in the backswing, through shoulder rotation and resistance of the right leg. When you start to turn the rotary valve or hit the impact valve, you have started the release. This is analogous to the person starting to lose the left arm and shaft angle or…the cup in the back of the right wrist in the downswing. Either one of those is going to leak pressure (energy) out.

The rotary valve (slow) is going to have a much longer duration of release than the impact valve (quick). Eventually, the same amount of energy will be released with each valve but the impact valve will send the ball higher because it will release virtually all of it's pressure in one second while the rotary valve will release it's energy in maybe ten seconds or a few seconds after it is completely opened. When the rotary valve is opened, the ball will be propelled upwards but only after the escaping pressure overcomes the weight of the ball. However a certain amount of energy will escape first, since the release is so slow.

Think about this now, the rotary valve will be causing the tank to hiss before the ball leaves and after it is gone. The impact valve, for all intents and purposes, will be silent until the ball leaves and have no sound afterward. Hissing is the sound of energy escaping. Hissing before the ball leaves is energy that will not propel the ball and hissing after, is energy that is wasted since it was not used to propel the ball.

If a person is "chicken winging" the left arm after impact, they would be unable to finish their release. The left arm must provide resistance so that the right arm can transfer energy down the shaft. If the upper left arm does not stay close to the body through and after impact, it absorbs much of the energy that should have gone to the shaft, which delays the finish of the

release. This becomes wasted energy since it was diverted along a different path and didn't make it to the shaft and eventually, the ball.

Let's make a comparison of a touring pro and a club golfer.

TOURING PRO	CLUB GOLFER
LOADS APPROX. 100 PSI: Maybe through a good shoulder turn, Correct upper body shift to the inside and of the right leg that is also resisting the turn of the upper body by maintaining it's flex.	LOADS APPROX. 50 PSI: Maybe because of a reverse pivot, poor shoulder turn an outward bowing of the right leg.
VIRTUALLY NO LEAKS: Maybe because of starting the downswing with the lower body, dropping shoulders, the right elbow into the right hip and maintaining the angle in the back of the right wrist and between the left arm and the shaft.	MANY LEAKS: Maybe because of starting the downswing with the casting the club, changing the spine angle and breaking down the left wrist.
RELEASES ALL ENERGY AT IMPACT: Maybe from transferring the weight to the left foot, clearing the left hip, maintaining the radius through impact and folding the left arm correctly	ENERGY STILL REMAINING AFTER IMPACT: Maybe from cupping the back of the left wrist, shortening the radius and spinning out with the hips.

I often tell my students that when I see people swing, I sometimes hear a great deal of hissing. I hear it because I have tremendous hearing you see. I

like to explain to them that they'll start to hear it also…now that they know what to listen for.

After understanding this analogy, the student has a picture that they can always refer back to. This picture helps them to understand how ENERGY in the swing is loaded, stored and released. If you happen to videotape and review their swing with them at the start of your lessons, they will see how their compressor might be faulty. They might see some leaks in the tank. The point is, they will have incentive to work on things and even be able to see progress clearer because they now understand the principle and therefore the objective of what you want them to work on. They will also see that they can now judge their immediate progress by accomplishing correct positioning and not worrying about how it affects their ball striking.

It is absolutely essential that the student KNOWS that they are progressing. If you cannot show them what to look for, they will judge their progress by how they hit the ball immediately, not by getting into the correct position. This will cause them to get distracted and lose sight of the objective that you two have agreed upon. Remember, they will help you to define the objective by what their goals are, physical limitations, talent and their work ethic. Make the objective too difficult to achieve by normal means (for that person) and you have made a mistake that you will have to repair at some time in the future.

Make the picture clear to them through better communication (use analogies), support them with positive feedback by commenting on things they have overcome and always be willing to LISTEN. You will have a student that will become a walking billboard for you and you will have made another friend.

Until next time…we are indeed fortunate to get paid for doing something that we are passionate about.

Good golfing!

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