better than a layup

Challenging Basketball's Conventional Wisdom

Space Shapes Time

Basketball's Second Law

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Introduction

In a post several years ago – **_Time Trumps Territory_** – we explored basketball's first law. We learned that basketball is fundamentally a game governed by time, not by the space in which it takes place. We play _within_ the dimensions of the court and are constrained by its boundaries, but we don't _capture territory_. Instead, we _pass through it_ and must assault the basket according to timelines established by various clocks: the game clock, the shot clock, and the various "countdowns" employed by the officials to govern different situations of play – inbounding the ball, crossing the half court line, etc.

Success in a game like football rests on seizing territory and improving your team's field position even if you are unable to score during a particular possession. You take control of the field in ten-yard chunks. As you advance the ball across the field toward the goal line you "control" that portion of the field that you have crossed – it's "behind" you; you "own" it. To improve your position on the field, you may even turn the ball over to your opponent by punting. In effect, you trade a difficult position and an unlikely chance to score for a more favorable location, biding your time until you can regain possession. Football is a chess match over territory.

In basketball there are no static lines or fronts. It's not a stop-start-stop game during which the offense and defense align across from one another, snap the ball to initiate play, then, do it all over again in a contest to seize territory. Instead, the action is continuous and fluid, the teams seesawing back and forth between offense and defense, the position of the players constantly shifting in relationship to the ball, the basket, and the movement of one another.

And, it is in the midst of that continuous and fluid action that we discover basketball's second law: **_Space Shapes Time_**.

One's ever-shifting position on the floor in relationship to the ball, the basket, and the other players _shapes_ time, either _shrinking_ or _stretching_ it. Identifying and reacting properly to the angular and spatial relationships between these elements minimizes the disadvantages of the slower players and maximizes the opportunities of the quicker ones. Spacing between players creates avenues to the basket or chokes them off.

This phenomenon is most easily seen at a tactical level by exploring the concept of reaction time.

Reaction Time

Reaction time is _the time it takes for one player to react to the movement another player._
People don't react instantly to stimuli; there's always a delay between the recognition of the stimulus and the triggering of the response. The widely accepted time delay is one-fifth of a second – the average for humans pushing buttons or stepping on brake pedals in response to visual or aural cues. A teenager is likely to respond a bit quicker than a senior citizen but one-fifth is the average.

In basketball reaction time is relative. To succeed you just have to be quicker than your opponent at a particular moment in time. For example, how long will it take for a defensive player to react to the movement of an offensive player and adjust his position accordingly? The answer depends on the distance between players and their relative quickness. In order to react in time the defensive player must create a cushion – a position that allows him to pressure the ball yet protect the basket. If he is quicker than his opponent he can play tighter and more aggressively, but if he is slower, he will need a bigger cushion to give himself time to react.

In contrast, the attacker seeks *separation* or room to maneuver. The purpose of any offensive cut is to destroy the defender's cushion – that is, to close the distance between players and shorten the defender's reaction time. Paradoxically, you jettison your defender, not by *moving away*, but by *moving closer*, then breaking sharply away to gain the time and space you need to shoot the ball or attack the basket.

Think about it.

From a purely physical perspective, you're "most open" when you're farthest from the basket. For example, in the backcourt dribbling toward the midcourt line. There's no reason to guard you because you're too far from the basket to attempt a shot. To be sure, your opponent may choose to press you in hope of stealing the ball or tiring you out or forcing you to run precious time off the shot clock, but not because you're a reasonable scoring threat.

From a basketball perspective, though, the opposite is true. Unless your defender falls down leaving you completely free within shooting range of the basket, you're actually "most open" when you're *closely guarded* because the defense has little or no reaction time to contest your movement. That's when the defense is most vulnerable. You can shot-fake and drive past the defender, attacking the basket instead of merely shooting the jumper. Moving closer gives you more options.

On a tactical level, then, the game is a constant rebalancing of the space between the ball, the players, and their respective relationship to the basket. Both the offense and defense are focused on the cushion:

• the attackers on destroying the cushion to shrink the defense's reaction time, creating space to shoot or assault the basket;

• the defenders on maintaining the cushion to stretch their reaction time, increasing their ability to protect the basket.

In this contest over time and space, both use alignment, footwork, and coordinated movement to shape time to their advantage.

Let's look at several examples, beginning with a simple one-on-one situation spread across the length of the floor, early in the game when the 40-minute game clock is not yet a factor.

As the attacker begins his journey from his own end line to the basket at the other end of the court, there is no real need for the defender to guard him tightly. As noted above, the sheer length of the floor provides a large cushion and is his best friend.
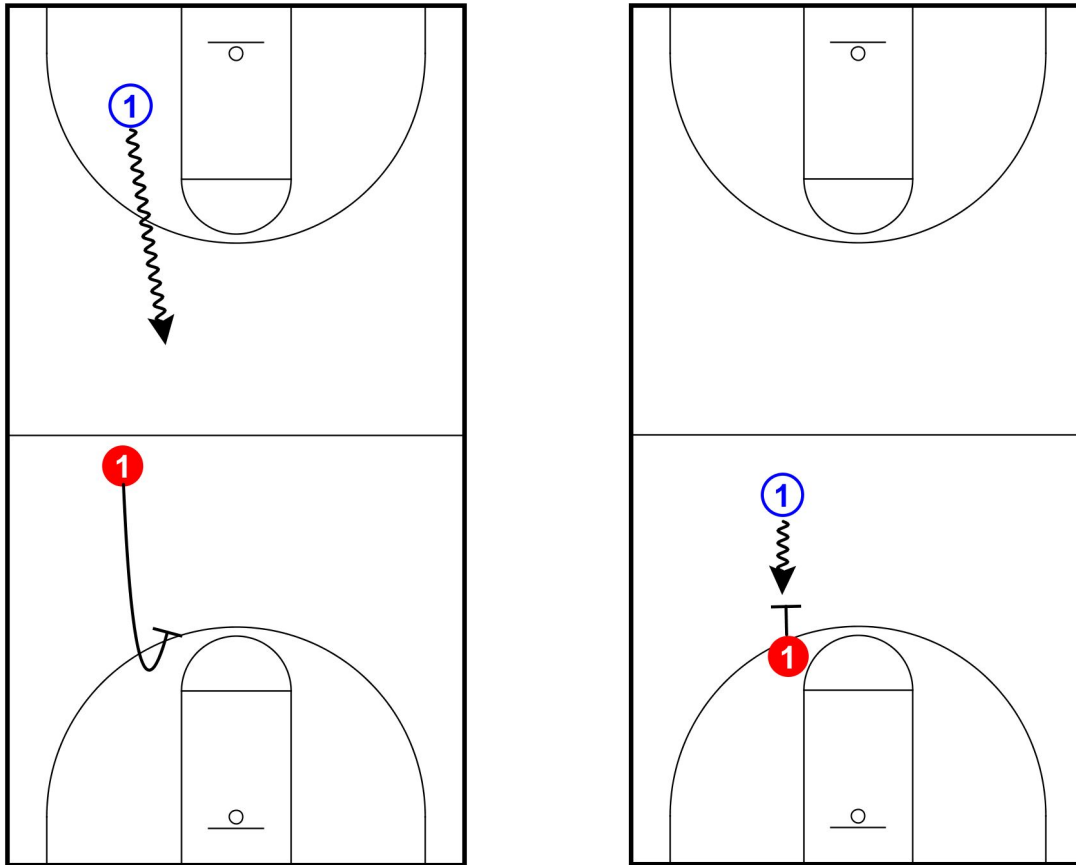
He simply retreats to the frontcourt and waits for the dribbler to advance past the mid-court line.

As the ball advances, the defender's cushion begins to disappear. When the dribbler finally arrives in the frontcourt, placing the ball in closer proximity to the basket and creating an opportunity to score, the dynamic changes. At some point the defender must assume a crouch and actually begin guarding his man, forcing a change of direction or an error, or a premature, rushed shot.

Let's introduce several more players to the scenario: our original dribbler who has advanced the ball up the floor and across the mid-court line, a teammate positioned at the wing or free throw line extended, and two defenders.
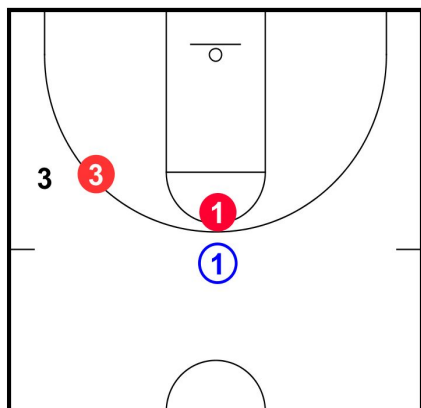
### Deny & Extend the Passing Lane

Defender #3 is in "denial position." He has extended his inside or left arm as well as a portion of his left hip and leg into natural the passing lane between the ball handler and the offensive wing. Effectively, he is saying to the wing, *"If you want to receive the pass, you'll have to step away from the basket. I won't let you catch the ball where you want to."*
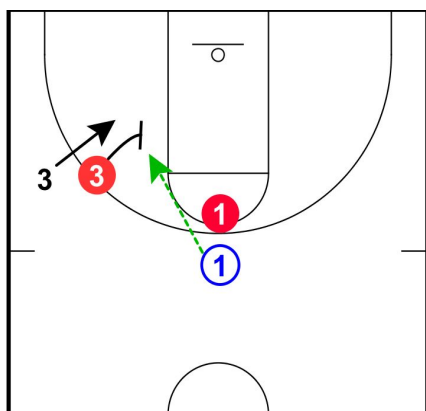
Break the Cushion

To achieve separation and receive the pass, the wing must break his defender's cushion. So he breaks sharply toward the basket, forcing #3 to block the threatening backdoor pass.
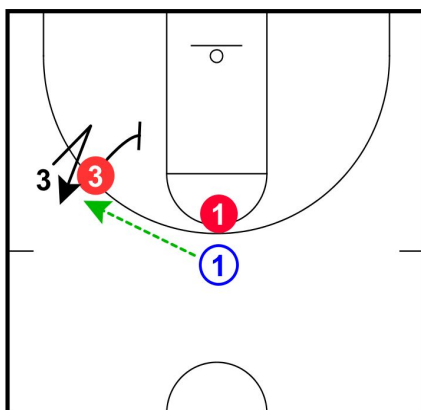
V-Cut

With the sharp-angled cut toward the basket, coupled with a sudden change in pace and direction, the wing V-cuts or reverses back to his original position and receives the point guard's pass.

By cutting *toward* the basket, the wing has forced his opponent to make a choice: block the backdoor pass or give up a possible layup. Unless he is significantly quicker, the defender can't simultaneously deny both the backdoor cut and the entry pass to the wing. He must concede one of these possibilities because he doesn't have enough reaction time to contest both.

Spacing

Closely related to reaction time is the equally important concept of *offensive spacing*. The objective is separate or space your offensive players far enough from one another to prevent any defender from effectively guarding more than one of them at a time. Commentators and coaches frequently define 15' to '18 feet as optimal but this prescription is *elastic*, shrinking or expanding based on the relative age, size, strength, and quickness of the participants. A quick sixth-grader might find it relatively easy to intercept an opponent's 15' pass because the passer lacks the strength to generate enough velocity to cross the distance to his teammate.

Not only is the ideal distance relative to the maturity of the players, the particular situation in which they find themselves and the shifting angles between the basket, the ball, and one another as the situation unfolds ultimately determines proper spacing.

So, spacing is more of a "give and take" proposition than an absolute. That's why basketball is so challenging to learn. *"How far, coach?"* asks the beginning player. *"It depends,"* responds the coach. *"Far enough to get the job done."* Chalk talks and drilling will help, but in the end only the repeated experience of actually playing the game – two-on-two, three-on-three, four-on-four, five-on-five – will school players to space properly. It isn't mastered until it becomes intuitive and instant.

Let's look at several examples. First, a 2-on-1 situation occurring in transition, followed by a significantly more complex one involving 5-on-5, full-court pressure.

Imagine the following. The ball is stolen near mid-court and two attackers converge on their basket contested by a lone defender. The defender's job is to buy time, to avoid closing or committing to one or the other as long as possible. He retreats to a position between the two attackers, feinting

toward one, then the other, delaying their advance in hope that one or more of his teammates can arrive in time to help.
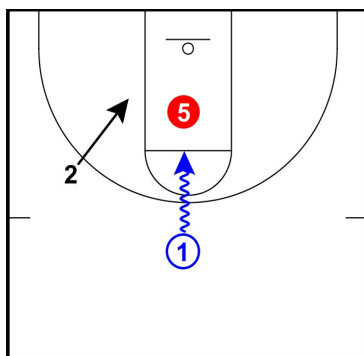
For their part, the two attackers must space far enough apart to prevent the defender from guarding them both and move quickly without fanfare to preserve their numbers advantage. *But note the problem suggested by the illustration.* Not only are they bunched too close together, their angle of attack effectively cuts the court in half, greatly reducing the area the defender must navigate. They've made the lone defender's job much easier.

The solution lies not just in better spacing, but in adjusting their attack angle *in relationship to the basket*.

In the illustration below, the two offensive players split the lone defender… *and the court itself.* They attack the rim from *opposite* sides of the floor. Not only are they spaced farther apart, they've created a wider front for the defender to guard.
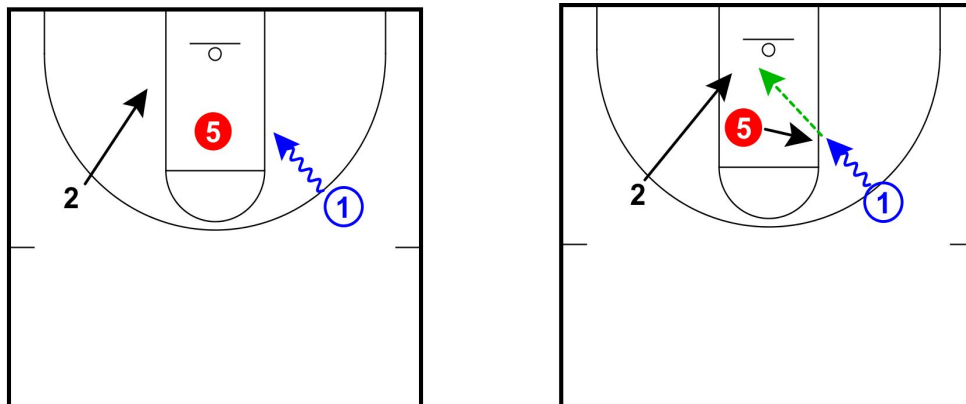
The ball handler drives the rim at a 45-degree angle, fully committed to "going all the way." His commitment to the rim forces the defender to make a decision. If the defender is the least bit tentative, the dribbler continues all the way to the rim. If, instead, the defender commits to him, then and only then does the dribbler pass the ball to his attacking teammate.

Occasionally you'll see the two attackers pass the ball back and forth between them as they proceed up the floor, but each pass presents a risk of turnover. Most of the time, the most effective maneuver is a straightforward dribble drive to the rim without a pass or, if contested, a *single* pass resulting in an immediate lay-up or a dunk. Anything more complicated is fraught with risk.

Now, let's turn to a much more complicated and extended example featuring all ten players involved in a full-court zone press situation with multiple instances of shifting angles and spacing.

To set the stage, we begin with a fundamental understanding: once the ball is in play, *all presses are the same.* Before the throw-in they may look different – man, zone, combination, 3-1-1, 2-2-1, varying degrees of intensity, full-court, three-quarter court, etc. – but in reality they are the same, or more accurately, they can be attacked in such a way *as to render them the same.* You don't need different press attacks for different presses.

Armed with this understanding we apply two principles:

• **First, spread the floor.** The court is 94' by 50.' That's 4,700 square feet. Make your opponent defend the entire area by aligning your players *across breath and length of the floor.* Don't congest the backcourt by bringing five attackers forward. Instead, spread them out. There are several ways to do this but for the sake of our example we will adopt the following alignment.
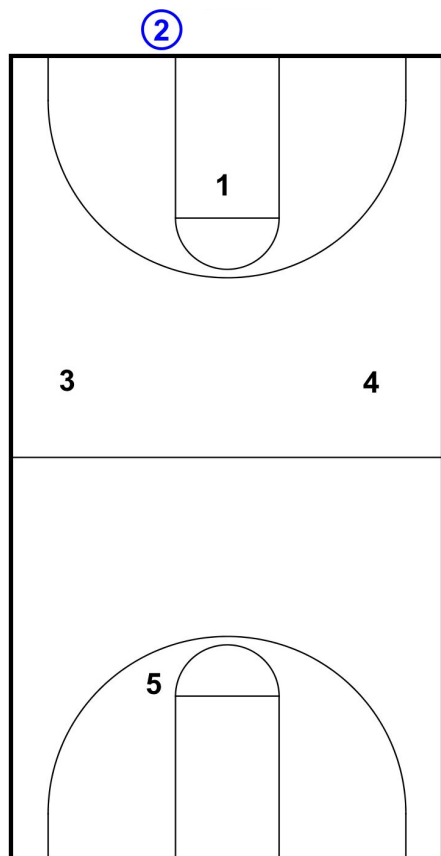
Consider the position of #5, the "deep man" – most often your center or big man, or the least mobile and poorest ball handler in the lineup. By positioning him near the basket you accomplish two ends.

First, regardless of his skill level he is an immediate offensive threat: he *must* be guarded even if he is the weakest player on the floor. Secondly, the alignment creates space, removing a defender from the backcourt and requiring the defense to guard the 94' length of the court.

Note, also, that by resisting the temptation to place more than one primary receiver near the end line you further isolate the midcourt attackers, making it easier to inbound the ball to them if the primary receiver cannot get free.

• **Second, once the ball is inbounded, form an** *attack box*, adjusting its basic shape relative to the position of the ball as you advance up the floor. It makes little difference whether the press is zone or man or a combination of the two as all presses have the inherent potential to morph into a combination press, and therefore can be attacked in the same basic manner.
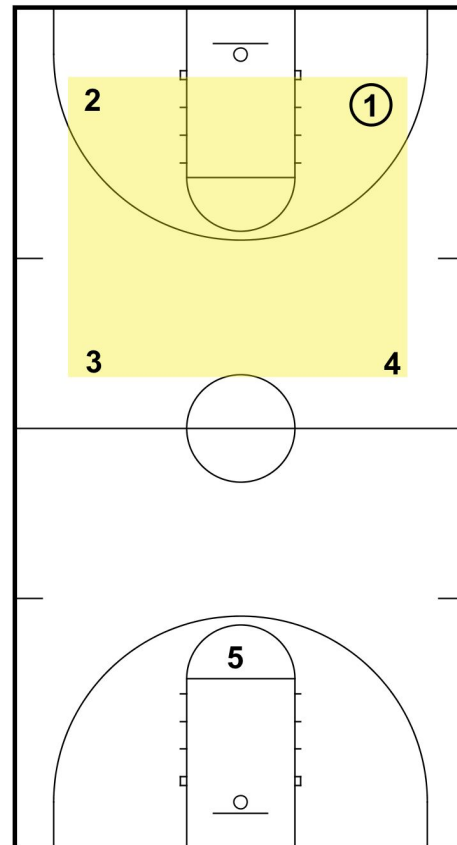
With these fundamental assumptions in place, let's proceed. Imagine a 1-2-1-1 or "Diamond and One" zone press.

As the throw-in occurs, the receiver turns toward the defense and prepares for the trap. The in-bounder steps parallel about 15' away and the *attack box* is formed.
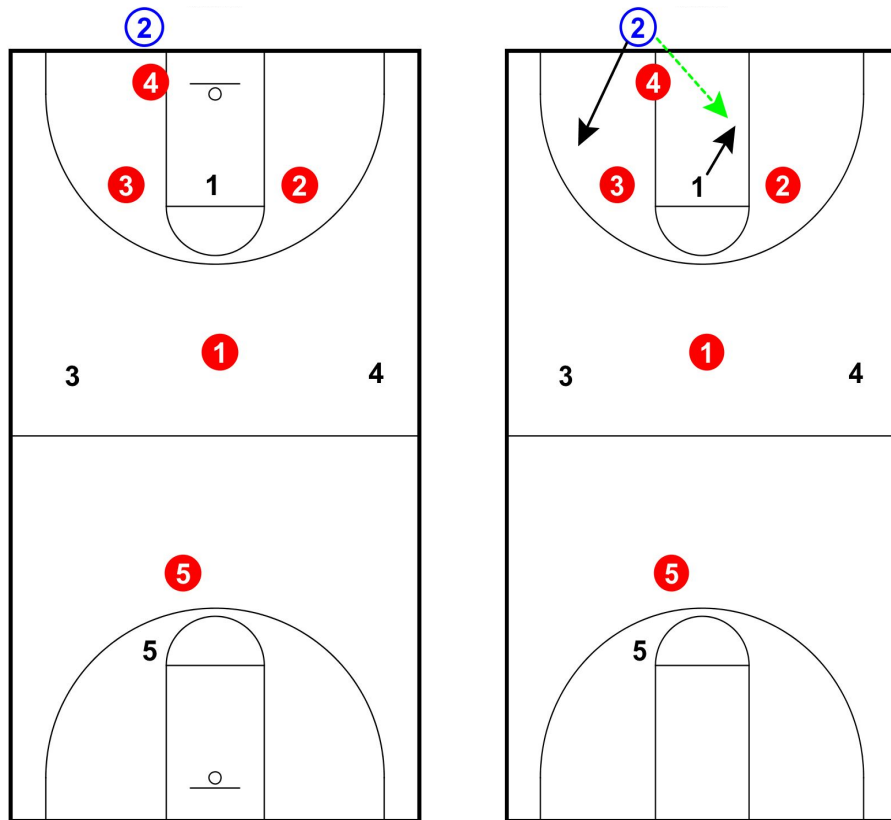

Simultaneously, the offside midcourt attacker – *the man away from the ball* – steps to the middle, altering the shape of the original box. All of this movement occurs quickly and simultaneously. There are now two defenders on the ball, leaving the remaining two defenders to guard three attackers. If we space properly, we create three potential passing lanes and the two defenders must choose which to choke off.
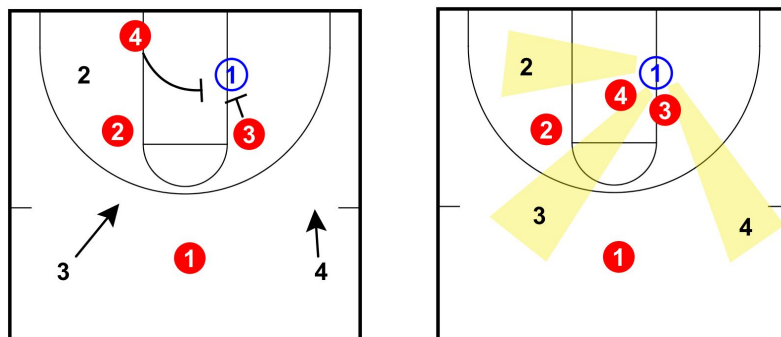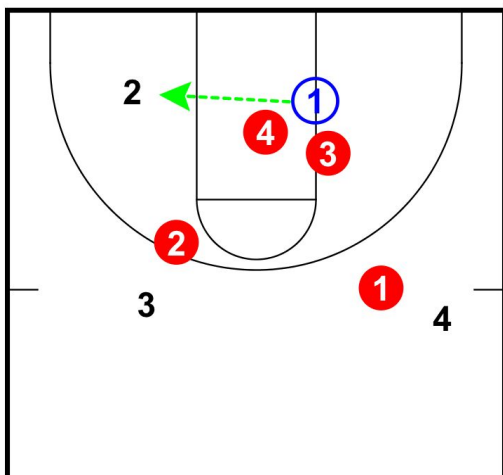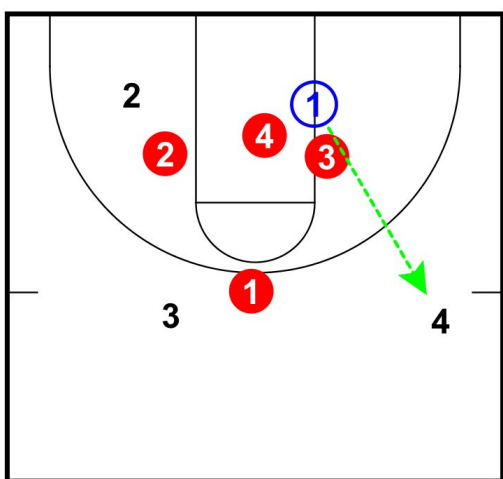
Pass to parallel guard
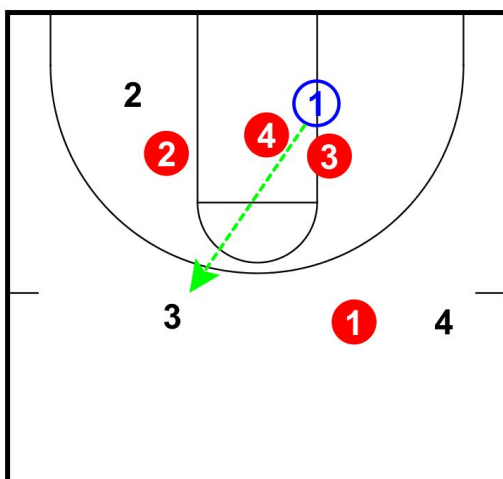
Pass to middle attacker

Pass to sideline attacker

Imagine that the defenders decide to choke off the passing lanes to our middle and side attackers. As illustrated below, the ball is simply reversed to the parallel guard who begins to advance the ball up the floor until he, too, is trapped. As the ball is in flight from one guard to the other, the midcourt men exchange positions: #3 moves back to his sideline and is replaced in the middle by his midcourt teammate, #4, who now finds himself opposite the ball.
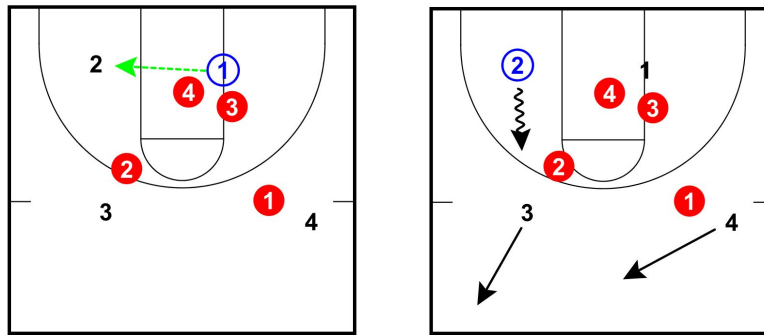
Note that as the dribbler advances the ball up the floor, ***the attack box must move with him***. Consequently, as #3 and #4 exchange positions they must do so *at an angle* so that they maintain their spacing relative to the advancing ball and to one another. Each step of the way the three potential passing lanes are preserved.
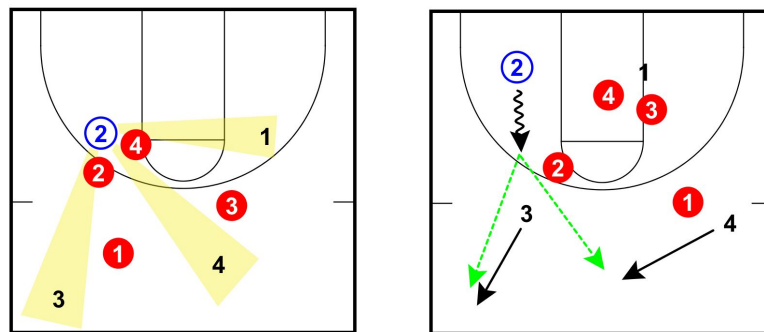
The key in every scenario is proper spacing to prevent the two back line defenders from successfully guarding the three attackers. If the space between attackers becomes too great, the distance the pass must travel necessarily lengthens and, correspondingly, the time it takes for the ball to reach the intended receiver. One defender can now cover two attackers and the offense's numeric advantage is lost.

The attackers advance up the floor as fast as the defense permits, every step of the way looking to turn a trap into a numbers advantage at the other end of the floor. The *attack box* moves up the floor with the ball. With patience and bit of guile, the attacking guards will eventually throw the ball "over the trap" to the middle or sideline attacker who will then advance on the basket, creating a 3-on-2 or 2-on-1 advantage.
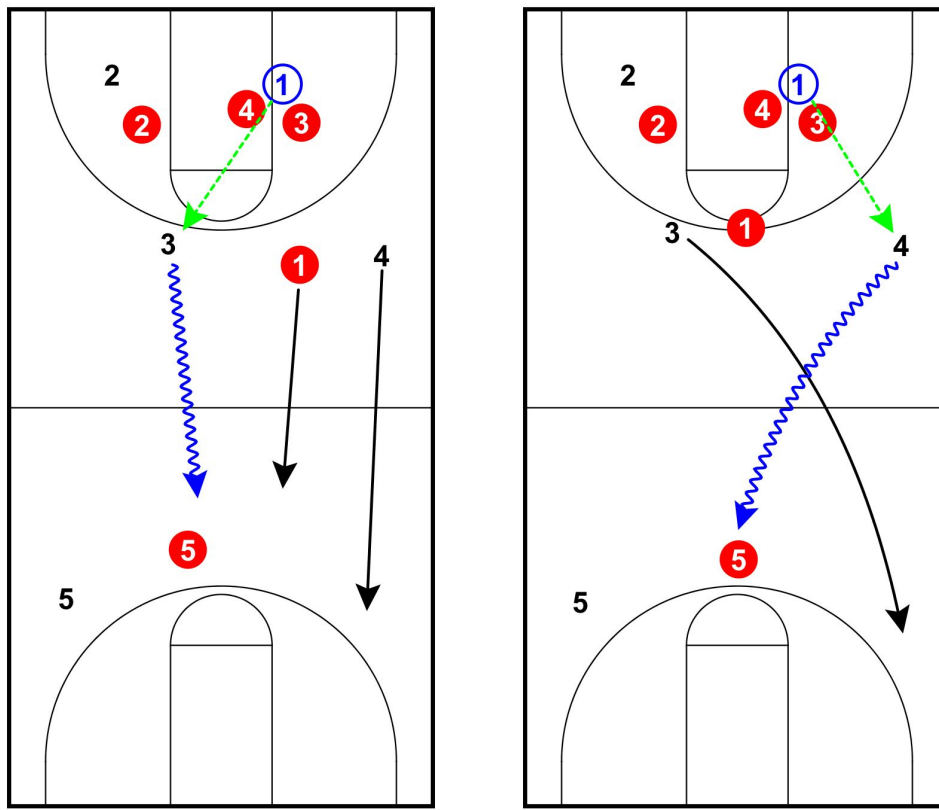
Now, **let's add a critical third attack principle to the equation**, one that cements the importance of spacing, angles and reaction time, and illustrates most dramatically how *space shapes time*.

• **Don't drift.** This is a recurring problem in most press attacks. The human tendency is to "move away" from one's defender in the illusion that you will become "more open." In reality, the opposite occurs. "Moving away" expands the defense's reaction time, limiting the offense's options and ultimately smothering any possibility of creating a numeric advantage.

Very often, either by design or through carelessness, the front line of the pressing defense will grow increasingly aggressive or bold, exerting greater and greater pressure *closer* to the end line. If the backline attackers ***drift down the floor***, they unintentionally reward the defense because the lone midcourt defender and his deep teammate can guard both midcourt attackers and the offensive deep man. A pass over the top of the defensive front line must travel *too far*, giving the midcourt and deep defenders a chance to contest or even intercept it.

But, if instead of drifting down the floor, the midcourt attackers *follow* the front line toward the endline, they *shorten* the passing lane, making it impossible for the midcourt defender to reach the ball. The pass goes over the frontline and we have created an immediate 3-on-2 break.
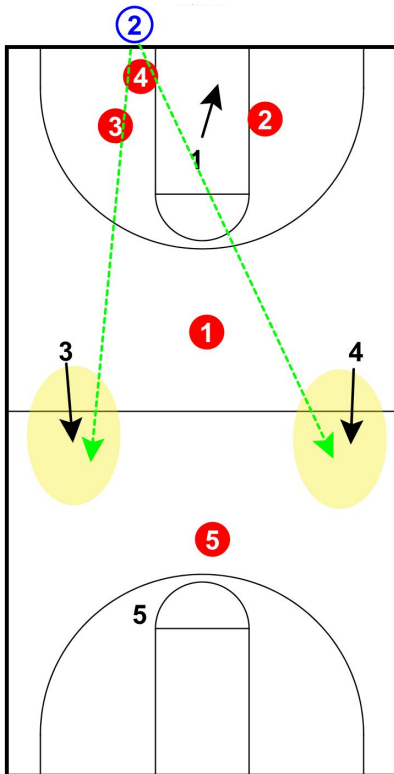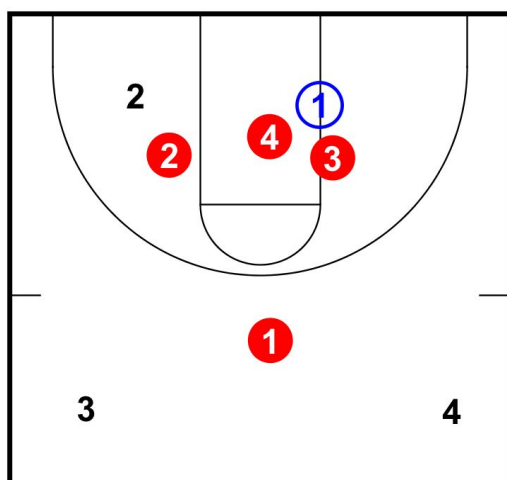
In this illustration, the two midcourt attackers have "drifted" away from the ball in the illusion that they will become "freer" and "more open" by moving farther from the ball. Actually, they're "less open" as any pass to them will take greater "air time," giving the defenders #1 and #5 an opportunity to pick off the pass. By drifting away from the ball, they've effectively placed a "sixth" defender on the floor – time.
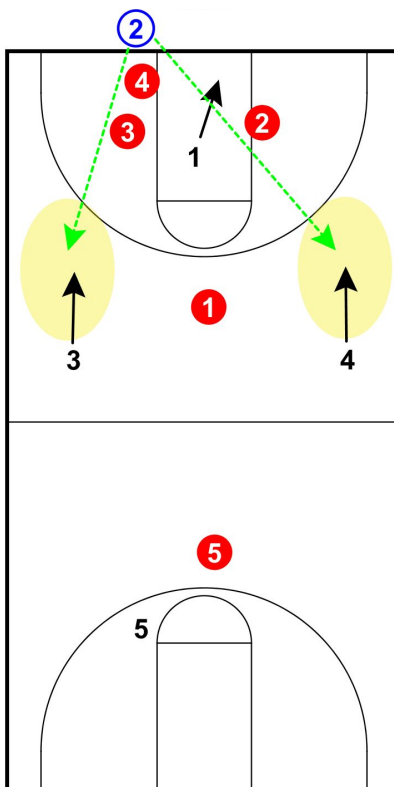

In this illustration, the opposite has occurred. As the front line defenders grow more aggressive, moving closer to the endline, the two midcourt attackers move with them, maintaining their original spacing. This shortens the passing lanes, making it virtually impossible for the single midcourt defender to guard both midcourt attackers. The inbounds pass goes over the front line and the offense has immediately created a 3-on-2 break.

The general rule, then, is "don't drift." When your defender moves up, you move up with him, staying *close enough behind him* to receive the ball." If your defender retreats, you retreat with him. **This principle applies *everywhere* on the floor.** Here are several illustrations of "drifting" after the ball has been put into play.

In this illustration the two midcourt attackers are *too far* from their trapped teammate. They never adjusted their positions in relationship to the ball. The lone midcourt defender can effectively guard both of them. #3 must step up and to the middle, while #4 simply steps up. This will force the midcourt defender to make a choice.
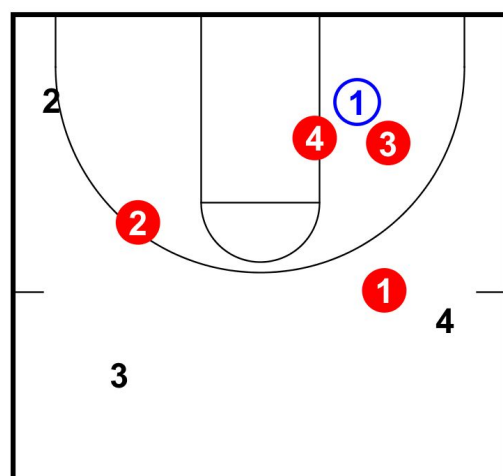

In this illustration the offside guard and midcourt attacker are *too far* from their trapped teammate. Like the diagram above, they never adjusted their positions in relationship to the ball. Both must step in the direction of the ball, forcing defender #2 to make a choice.

The challenge, particularly for younger, less experienced players, is learning to adjust their positions as the ball and the attack box *move up the floor*. This isn't something you master by studying a playbook. It can only be learned through daily, "live" four-on-four or five-on-five experience. You learn the game and grow in confidence *by playing the game*.

But, even mature players competing at the highest levels struggle with the concept.

Witness the final minutes of last December's contest between Butler and Villanova. Butler nearly blew an 11-point lead and their chance to upset the #1 ranked Wildcats by stranding their guards in the backcourt. In both clips the midcourt attackers run down floor giving the defense an opportunity to pick off the subsequent long passes.

In this **first clip** both midcourt attackers "drift" over the midcourt line leaving the ball handler a very long and dangerous pass.
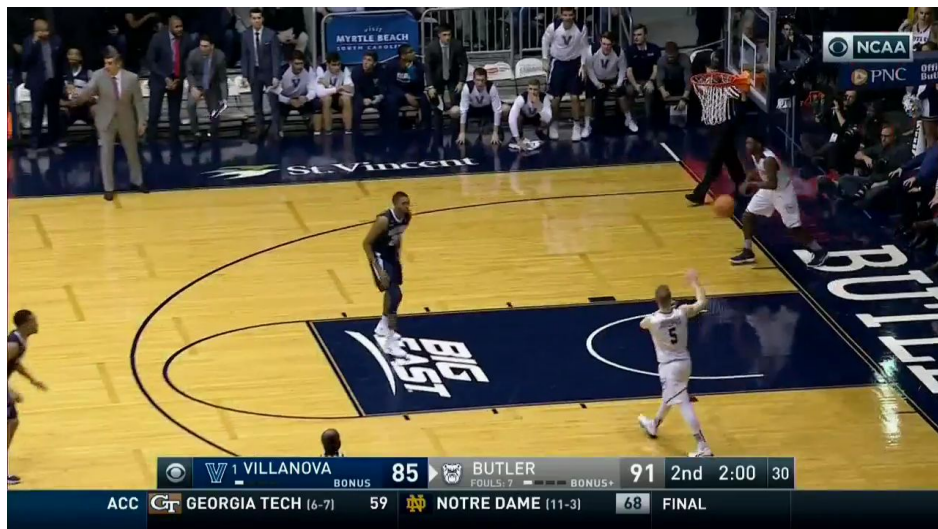
On the very **next possession**, neither fills the middle and once again drift far down the floor leading to another long pass and an interception.
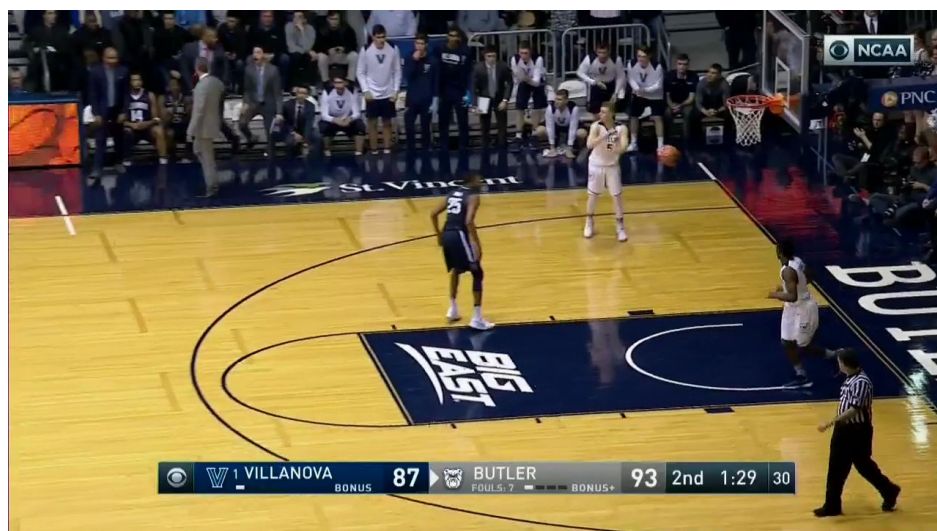
Tempo

In great detail we have seen how *space shapes time* from a tactical perspective, exploring the concept of reaction time and the related notions of court spacing and attack angles. If we shift our lens from the tactical to the strategic we can see the law at work through another element of time, the concept of tempo.

***Tempo* is the pace or speed at which something occurs.** In basketball, it's the pace of the game –fast or slow, or something in between. The team that establishes and is able to maintain its preferred tempo or pace is usually the victor.

Tempo impacts the game on a *strategic* level because it affects the number of possessions and shot attempts, and consequently, scoring. It often reveals a coach's offensive and defensive philosophy and his tolerance of risk and error.

We often hear television commentators talk about "shortening" or "lengthening" the game as strategy choices coaches face as they approach a season or a particular game. These terms are confusing to many viewers when taken literally as they suggest that a coach has the power to adjust the 40-minute game clock to his advantage. Of course, he can't; the terms are only metaphors.

"Lengthen the game" = *speed the pace* to increase the number of possessions and opportunities to score within the 40-minute constraints of the game.

"Shorten the game" = *slow the pace* to decrease the number of possessions and opportunities to score within the 40-minute constraints of the game.

Coaches try to establish a pace most suited to the strengths and weaknesses of their team. A fast-paced game generally rewards the more talented, athletic team, especially one with greater depth than its opponent. Conversely, a slower-paced game may equalize disparities in talent and depth, leading to a closer, lower scoring game that the weaker team may have a chance to win at the end.

A team attempting to lengthen or speed a game will *extend the court*, spacing its players "all over it" by pressing and fast-breaking while a team hoping to shorten or slow the game will *shrink the court*, reducing the contest to "a half court game" that favors a more deliberate, patient style of play. In both cases, the teams use space to shape time as expressed in tempo or the number of possessions and scoring opportunities the game generates.

At one end of the spectrum we may see a team that favors a highly conservative approach: a containment press followed by a zone or pack line defense intended to consume the shot clock, paralleled by a methodical, time-consuming offense to limit the number of possessions and frustrate an impatient opponent. At the other end, a wide-open running and gambling team like Paul Westhead's Loyola Marymount's squads, willing to give up open shots and even layups in order to speed the game until the sheer pace of play fatigues and disorients their opponent, leading to a catastrophic meltdown.

Conclusion

On both levels, then – the tactical and the strategic – players position themselves in space to control the game's two most important time elements, reaction time and tempo.

One's ever-shifting position on the floor in relationship to the ball, the basket, and the other players

shapes time, either *shrinking* or *stretching* it. Identifying and reacting properly to the angular and spatial relationships between these elements minimizes the disadvantages of the slower players and maximizes the opportunities of the quicker ones. Spacing between players creates avenues to the basket or chokes them off.