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The Loop



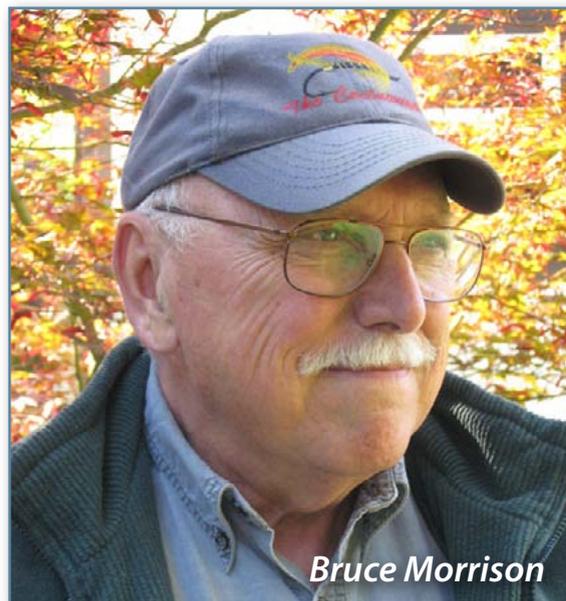
THE JOURNAL OF FLY CASTING PROFESSIONALS

In this issue:

- Helpful Acronym
by Paul Bown
 - Just Follow Me
by Aitor Coterón
 - Rod Tip Path Control
by Mark Surtees
- and more...

Cover Photo - Paul Brown MCI, , Northwest England

Good-Bye Bruce Morrison, Hello Brian DeLoach



Bruce Morrison

Please join me in saying thank you to long-time Loop editor and friend R. Bruce Morrison of Vancouver Island, Canada. Bruce has traded his editorial pencil in favor of more time with the long rod. Bruce was instrumental in writing and producing the Casting Masters Then and Now series, where he interviewed many of fly fishing's brightest and biggest voices. His contributions to the new look and makeup of The Loop were many. Thanks and good fishing Bruce.

Please join The Loop editors in welcoming educator Brian DeLoach to our editorial staff. Brian is an



Brian DeLoach

FFI Master Instructor who also (with his father, Guy) teaches a credited fly-fishing course at Lee University, Cleveland, TN, USA. Brian has a master's degree in English education and is currently working on his doctorate. He teaches high-school level Literature and Research Composition and works as an adjunct professor of English at Lee University. His work appears in several political publications, fiction compilations, The Loop, and other fly-fishing publications.

Brian lives in Cleveland, TN with his wife, Caitlin, and their Beagle, Hazel.

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HELPFUL ACRONYMS

AIDE-MÉMOIRES AND MNEMONICS

by Paul Brown, MCI, UK

Many of us have an abundance of knowledge, accumulated over many years of study, practice, teaching and being out on the water, covering everything from fishing, tackle, casting, safety, etiquette and more.

Good friend and fellow instructor, Phil Ratcliffe (MCI,THCI), likened it to having a toolbox full of knowledge and experiences.

As we gain more experience as instructors, the box begins to fill with useful and effective teaching tools that help us remember information in a way that can be easily passed on to our students.

This article is about sharing some of those really useful acronyms, aide-mémoires and mnemonics that have helped me in my teaching and continue to help me become a better instructor.

I'm not trying to reinvent the wheel or claim ownership of all of these ideas; indeed most of the information listed comes from the wisdom of other well-respected instructors.

The purpose of the article is to pass on these pearls of wisdom by bringing many of them together in one place, and respectfully acknowledging the valuable contribution of their creators.

I'm sure there are many more, and if I've misattributed or omitted any

origins from the ones listed, please forgive me and allow me to say 'thanks for the nuggets.'

Casting - The Five Essentials

Eat Another Sugar Coated Peanut

A useful way of remembering Bill and Jay Gammel's Five Essentials, in the order they occur in a cast.

E – Elimination of slack.

Slack line should be kept to an absolute minimum throughout the cast, efficient casting requires the line to be under constant tension.

A – Acceleration

Acceleration/Power must be applied in the appropriate amount, at the appropriate place in the casting stroke.

S – Straight Line Path

In order to form the most efficient, least air resistant loops, and to direct the energy of a fly cast toward a specific target, the caster must move the rod tip in a (virtual) straight line path.

C – Casting Stroke/Arc

Casting Stroke and Arc must vary with the amount of line outside of the rod tip and the amount of bend in the rod.

P – Pause/Timing

There must be a pause at the end of each stroke that varies in duration with the amount of line beyond the rod tip.

Aide-Mémoires and Mnemonics *continued...*

LAPPS - For Efficient Casting

Here's a really easy acronym to remember. To cast efficiently, as any one of the below increases or decreases, so must the rest.

L – Line

A – Arc

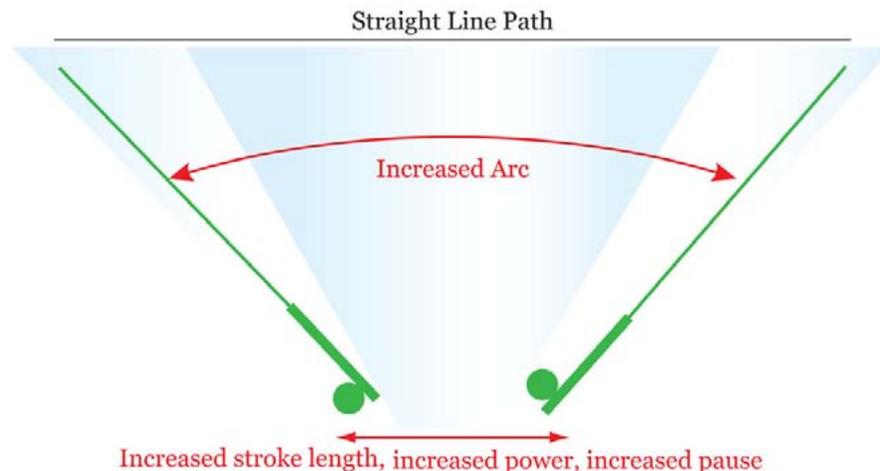
P – Pause

P – Power

S – Stroke

For example – a longer line requires a wider arc, a longer pause, more power and a longer casting stroke. When we shorten the line the opposite is needed.

When casting a longer line, everything increases



Another useful way of looking at the above is:

Short line, short stroke.

As the line increases, so does everything else.

For example – a longer line requires a wider arc, more power, a longer casting stroke and a longer pause and if we add a haul the same principle applies.

Short line, short haul.

Basic Pick Up and Lay Down Cast

Peel, pluck, pause, pat

Start slowly with a PEEL until the end of the flyline starts to leave the water, leaving just the leader in contact with the surface, accelerate with a smooth PLUCK of the flyline to a crisp stop, PAUSE to allow the line and leader to unfurl behind you, then smoothly bring the rod forward and stop to PAT the delivery forward.

Another Oldie But Goodie

Tip, top, ten

Start with rod TIP low, accelerate to a stop at the TOP and pause, on your forward cast stop at TEN O'clock, then follow the line down as it falls.

A great piece of advice regarding timing and acceleration from the indomitable Bernard "Lefty" Kreh

Start slow, finish fast

An efficient cast requires smooth, constant acceleration throughout the casting stroke to a positive stop.

Another useful way of expressing acceleration and the application of power is lead before speed.

Aide-Mémoires and Mnemonics *continued...*

I've sometimes found the following concepts helpful, especially when teaching youngsters and absolute beginners.

Answer the phone

This teaches real beginners a very basic, initial first arm movement.

Pop the balloon

Imagine a sharp spike attached to the end of the rod tip, and a large balloon suspended directly above the caster, ask them to imagine they are popping the balloon – useful if the student keeps breaking the wrist and moving the rod tip too far backwards.

Swat the fly

Get students to imagine they are holding a fly swat, instead of a fly rod to squash a fly on a flat window directly in front of them on their forward delivery.

In most normal fishing conditions we want to let the fly line roll out and the leader to unfurl completely. So remember to give it flight time.

Stop it high, watch it fly!

And of course, the opposite is also true.

Stop it low, it won't go!

This is useful way of reminding students to start with the rod tip low to the water or ground before making the cast.

Tap the water/ground with the rod tip

Or think of the rod tip as a dog's tongue and remember to Give the dog a drink!

The Six-Step Method

Here's a real gem devised by Bruce Richards (IFF MCI, CBOG). Used by instructors all over the world, this method provides a logical way for an instructor to analyse any casting problem and communicate the cure in a way that most students will understand.

Analyse Cause – top to bottom – line to body

1. **LINE** - "See the big, wide loop we talked about?"
 2. **ROD** - "Remember that big, wide loops are caused when the rod tip travels in a big, wide arc?"
 3. **BODY** - "See how your wrist is bending a lot and how that makes the rod tip travel in a big arc?"
- #### ***Suggest Cure bottom to top – body to line***
4. **BODY** - "Don't bend your wrist so much"
 5. **ROD** - "See how that makes the rod tip travel in a much straighter line?"
 6. **LINE** - "Look, your loop is now much smaller"

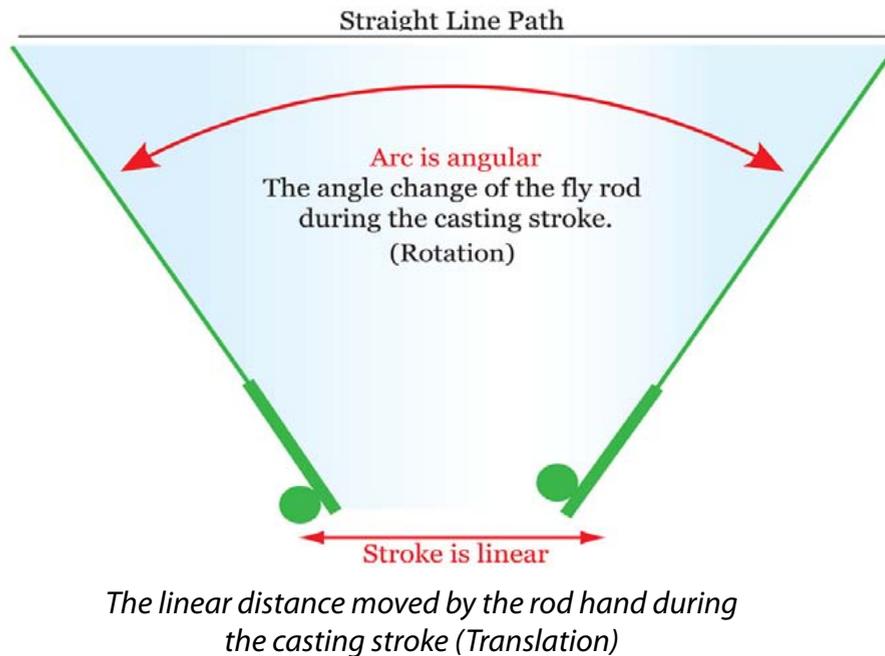
Arc and Stroke – The Difference

I've often found students have difficulty understanding the difference between Arc and Stroke, so here's a simple way to start to think about them.

Arc is angular. Stroke is linear.

..... see diagram in the next page.

Aide-Mémoires and Mnemonics *continued...*



Roll Cast Visual

Tasmania's Peter Hayes, (IFF MCI), makes an analogy of the initial movements and late rotation and power application of the Roll Cast with the backslash and forward slash keys of a typewriter/computer keyboard.

\\\\\\V-- *Backslash, backslash, backslash, backslash, backslash, forward slash.*

Check out Peter's excellent lesson on You Tube using the link below:

<https://youtu.be/nVeoNwf9Q7Q>

Lines, leaders and hooks

Simple leader construction formula

There are as many types of formulas for leader construction as there are fishing situations. But here's a real, simple evergreen from Charles C. Ritz, French hotelier, fly fishing specialist and author of "A Fly Fisher's Life".

The 60, 20, 20 rule - Example: 60% butt, 20% taper and 20% tippet.

Leader X Size

The rules below come from Gordy Hill's excellent online MCI study group archive.

Rule of 11's

A subtraction of the X leader number from 11 to come up with the leader diameter in thousandths.

Example: 4X leader = $11 - 4 = 7 = .007$ " diameter.

Rule of 3's (or 4's)

Division of the numerical fly hook size by either 3 or 4 to come up with the X number for the leader.

Example: #12 hook, 12 divided by 3 = 4 therefore = 4X tippet

Rule of 30

A method of coming up with the approximate grain weight of the first 30' of a fly line by multiplying the fly line rating number by 30.

This is a very rough approximation for mid-range fly lines.

Aide-Mémoires and Mnemonics *continued...*

Rule of 9's

Rough calculation of the lb. test of a fly leader/tippet by subtracting the X number from 9.

This has become much less accurate in recent times because of wide variation in tippet material diameter/strength ratios.

Safety

Use the acronym SWEEP

As instructors we all have a duty of care to our students and ensure that safety is front of mind at all times. Prior to any lesson, I always give a safety talk, I use the SWEEP acronym to help me remember the major points:

S – Suitable Clothing

- Wear a hat and use eye protection – fly casting can be dangerous
- Wear appropriate clothing for the conditions
- Wading - recommend wearing a life vest and using a wading staff

W – Weather

- Constantly monitor for any changes
- Extreme heat – Have plenty of drinks available and sun blocking lotion
- Extreme cold – Wear lots of layers of clothing and thermal undergarments
- Flooding – Mark water level and monitor it.
- High winds – Use appropriate casting technique
- Cloud and mist – Be aware of route to safety

E – Electric Shock

- Lightning – put rods down immediately, do not stand under trees
- Be aware of and stay away from overhead power cables

E – Environment

- Be aware of dangers such as slips, trips and falls, drowning
- Be aware of members of the public when back-casting
- Take all litter home, leave only footprints

P – Plants and diseases

- Giant Hogweed - running sores, take long time to heal.
- Always wash your hands after being near water
- Leptospirosis (Weil's Disease) – Waterborne organism from rat's urine
- Report any flu like symptoms to a doctor if they occur after fishing

Three Principles of Spey Casting

No matter what style a caster uses, all spey casts have three principles at their heart. Here's a simple acronym to help remember them in the actual order they occur.

LAD

L – Loop -- All Spey casts require the caster to create a D-Loop. This is the suspended line behind the caster's shoulder between the rod tip and the water. In reality this rear loop can vary in shape between D-shaped to V-shaped, dependent on the environment, skill of the caster and the intention of the cast.

A – Anchor -- The anchor is the term used to describe the minimum amount of fly line that is in contact with the water, (apart from the Basic Roll Cast, which has a larger anchor of approximately 15' or more) immediately prior to delivery of the forward cast.

The anchor should always be aligned towards your intended target, approximately 1 to 1.5 rod lengths off your casting shoulder.

Aide-Mémoires and Mnemonics *continued...*

There are two main types of anchor: Airborne (sometimes also referred to as a Falling Anchor) or a Waterborne Anchor (sometimes referred to as a Sustained Anchor) depending on the actual cast being used at the time.

D – 180 Degree Rule -- To perform a safe and efficient Spey cast, the Anchor, rear D or V-Loop and rod should all be aligned with your intended target. Another useful visual is to think in terms of a large cartwheel by your casting shoulder, pointing towards the direction of travel.

Spey Casting Rhythm

A useful way to sort out problems with rushed Spey casting is to slow the timing down and count out a beat of 123...123...123...

This count is the same timing as a Waltz, (which is often written in 3/4 time). As a caster, try practicing a Switch Cast tempo in terms of 'Lift, two, three...Sweep, two, three... Tap (deliver), two, three.

And if numbers aren't your thing, throw caution to the wind, let your hair down, take a deep breath and hum out loud "The Blue Danube" by Johann Strauss II, and match your rod hand movements to the tempo!

Snake Roll Help

Bank, River, Bank, Deliver

This little mantra helps students with the correct direction of rod tip movements when making a Snake Roll Cast in an upstream wind, from either side of the body.

The Five S's

Scandi Style/Underhand Technique

A useful way to remember the salient points of difference between Traditional Spey Casting with a double-handed rod and the more modern Scandi style/Underhand Technique.

Scandinavian

This Scandinavian style of casting was developed by Swedish fly fishing instructor Göran Andersson, and is commonly referred to as Scandi Style or The Underhand Technique.

Shorter Head

This style of casting uses shooting heads and was borne out of casting in situations with restricted back space, whilst still being able to cover good fishing distances.

Shorter Rod

This style of casting generally uses shorter length rods of between 12 to 13.5 feet in high water and longer rods up to 15 feet for bottom feeding fish.

Shorter Grip (hands closer together)

The hands are brought closer together when using The Underhand Technique, and as the name implies the lower hand is dominant, while the upper hand acts as the fulcrum point.

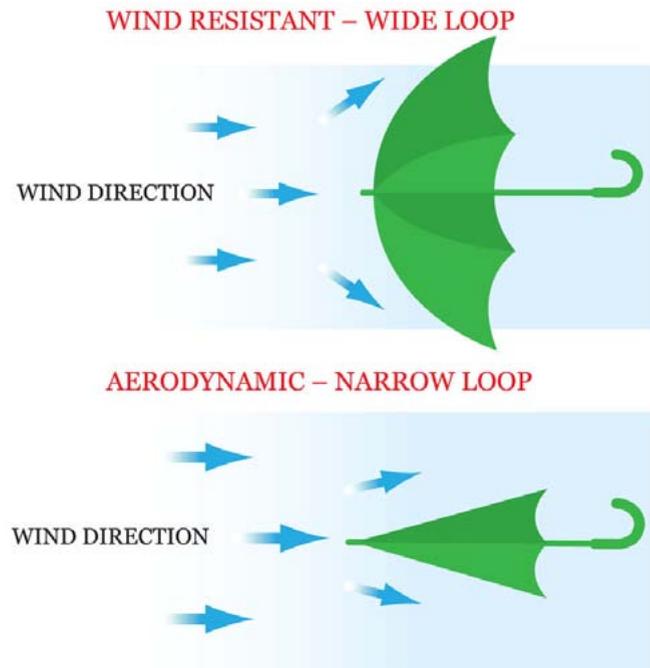
Shorter Stroke

This style uses a short casting stroke using little, if any body movement. This clipped, efficient stroke; mainly utilising the bottom hand to make the cast, ensures that the rod is loaded from the butt towards the tip and allows the caster to cover long distances with ease.

Aide-Mémoires and Mnemonics *continued...*

Also metaphors like rainbow shapes, windshield wipers and painting the ceiling of an igloo, can visually explain the path the rod tip takes when casting big wide loops or breaking the wrist.

The most recent addition to my own toolbox comes from my fellow countryman Charles Jardine, with his explanation on the benefits of casting tight loops when casting into a headwind.



Loops shapes into wind.

Charles uses the analogy of trying to battle a fully opened, wind resistant umbrella against the oncoming breeze, versus the ease of moving forward a streamlined, closed umbrella – a perfect explanation, as us Brits are fixated by our weather.

There are many, many more Acronyms, Aide-Mémoires and Mnemonics and it would be fantastic if you shared your own by submitting them for publication.



About the Author: Paul Brown is an FFI Certified Master Casting Instructor who is based in the North West of England. He has been fly fishing for more than 40 years, with his first fish whilst on vacation in the wilds of Virginia, USA.

Paul is an Associate Editor of The Loop and a member of the UK's Game Angling Instructors' Association (GAIA) and holds the Advanced Professional Game Angling Instructors' qualification (APGAI) and is also a qualified GAIA Mentor and Assessor, plus an instructor with The British Fly Casting Club (BFCC). Contact Paul at: PAUL_BROWN18@sky.com

FOLLOW ME, PLEASE

by Aitor Coterón, CI, Bilbao, Spain.

“Look, if you just let your arm drop by effect of gravity, you send the fly ten meters away effortlessly and accurately.”

That is my way of showing how easy it is to make a pick up and lay down cast—elbow forward style—at most usual trout fishing distances. However, something comes to my mind in those instances, something that I never say to my student:

‘If it is so easy, why did it take me so much time, effort and frustration to do it properly?’

Intuitive Motions Don’t Work

Let’s spare the backcast altogether by placing the line on the ground straight behind us, and let’s ask our beginner student to make a forward cast. A windscreen-wiper motion with its consequent non-loop may be the result.

All would-be casters find intuitive that you need to rotate the rod for it to be useful — after all every lever works by rotation, therefore, no rotation, no advantage. Achieving a near-straight motion of the rod tip from a curved motion of the rod butt seems to be too much of a novelty, though—a hard-to-grasp idea, indeed.

Follow Me, Please *continued...*

But, is that “straight motion within a curved one” actually that new for us? Don’t we all throw a dart to its target with a straight motion of the hand? Doesn’t our forearm rotate, however our hand travels in a straight line? Don’t we do it just instinctively, without any instruction whatsoever? Somehow we manage to figure it out from the start. Take a fly rod in your hand and that natural response seems to dissolve itself. Crazy!

Metaphors and Mantras

In fact I am very fond of the dart-throwing metaphor when teaching: to throw a dart the hand goes straight, so the dart flies straight. In the same way, the rod tip should move in an ideal (not real, though) straight line, and the line will follow, flying straight to the target and forming a narrow loop.

But fly casting is a very special case of throwing, as the very same rod flexibility which allows us to form pretty tight loops with straight legs demands a very precise control of that flex. Since rod flex is a result of the force applied to it, if you apply force erratically you are in trouble; a progressive increase in rod-butt speed is key, then. This is one of the most difficult aspects to get right. Getting the line as well aligned as possible with our target at the end of the backcast is another, as we will see later.

So “if the rod tip goes straight, the line will follow” is a very useful mantra for teaching casting fundamentals, mainly because it shows beginners—and reminds false beginners—that waving their rod hand in a windscreen-wiper fashion just doesn’t work.

—Your hand has traced a curved path so your rod tip was moving downwards at the end of the backcast; the line has followed that direction and almost touched the ground behind you.

The sentence above is something I have to repeat very often. So far so good, but is that all there is?

Some Physics

Two concepts are essential to understanding line behavior: ***inertia and momentum***. They are very basic and easy to grasp.

Inertia

Inertia is a property for which every object tends to keep its state of motion. If the object is still, it tends to remain still, resistant to any force trying to move it. If the object is in motion, it will resist any attempt to modify that motion; that is, it will try to avoid any change in its speed or in ***its direction***.

Momentum

In physics, ***momentum*** is the resulting value of multiplying mass times velocity, and is expressed by the formula $p = m \cdot v$ —in which ***p*** is ***momentum***, ***m*** is ***mass*** and ***v*** is ***velocity***. At first sight that formula doesn’t convey anything meaningful to a layman caster; let’s try to translate it into something digestible.

What the concept of ***momentum*** reflects is the amount of resistance that an object opposes to any force trying to change its state of motion; also known by the more graphic expression ***quantity of motion***, it is like a way of measuring the amount of inertia of a body, so to speak. In practice this means that the heavier the body (i.e., the bigger its mass), the more force is needed to change its motion; on the other hand, the faster the body is moving (the higher its velocity is) the more force is needed to change its motion. Finally, we must remember that “change in motion” not only refers to a change in the speed of the body, it could be just a change in its direction while keeping the same speed. ***Inertia*** of a body resists changes in both parameters speed and direction. That is all we need to know.

Follow Me, Please *continued...*

Metaphors work... up to a point

Our fly line is, obviously, an object, and as such it has *inertia* and, when in motion, *momentum*. But unlike a body whose mass is concentrated—a spinning lure for instance—a fly line is a long and flexible body, so every part of it can move semi-independently from the rest. And if different parts of the line are moving in different directions each of those parts has a different *momentum*—even if all parts have the same speed—because *momentum* is defined by direction of motion apart from speed. This semi-independence of the different parts along the length of a fly line can lead to a very peculiar behavior. Let's study it on the following video:



<https://vimeo.com/20736865>

A bead chain—*the line*—is attached to a rod. The rod tip traces a pretty straight path. . .and *the line* goes a totally different way. Exactly the opposite of what we normally teach! How is that?

As we know rod tip path has a main role in the resulting trajectory of the fly line, but it isn't the only aspect to take into account. There is another—capital—key to consider: the angle between the fly line at the start of the casting stroke and the rod tip trajectory during it.

Let's study the video again:

When the *rod tip* accelerates, it forces the part of the chain closer to it to move in its same direction... but only that short part actually moves in that direction.

It is useful to think of the chain as a set of individual beads. Each bead—apart from those very close to the rod tip—follows a different path from that traveled by the tip. The chain's flexibility itself allows for each part to move independently, up to a point.

We already know about *inertia's* whims, so now we are aware that each bead moving in its own direction wants to keep moving in that same direction, resistant to any force trying to change it. The amount of resistance it opposes to the mending of its divergent trajectory is given by the *momentum* of each bead—that is, by its mass and its velocity. Only a few beads are actually moving in the direction of the intended cast, and those have the task of bringing back to the *right path* the rest of the astray beads; a hard task indeed, as the combined mass of the "good beads" is much smaller than that of the "bad beads," which, as a result, have a much bigger *momentum*. So what we can see on that video is a spectacular tug-of-war among the different sections of the *line*. The final lay out of that cast is the result of the fight between the good guys' and the bad guys' respective *momentums* - a surprising result indeed as, for once, the bad guys win.

Yes, a bead chain and a fly line are different... but not that much.

Follow Me, Please *continued...*

One difference is that the chain doesn't have a taper, so its free end has a bigger percentage of the total mass, while the tip of a modern fly line is thinner than its belly—and therefore comparatively lighter. But just think of that bead chain as if it were a level fly line and the example remains valid. The main difference lies on gravity. That bead chain video pretends to represent an overhead cast. On a real cast, for the line to climb upward, it must oppose the force of gravity pulling it downward. The chain on the floor doesn't have to fight gravity, so the effect of moving away from the rod tip path is more exaggerated. In summary, the dissimilarity between that experiment and real world casting is just one of degree: a fly line is subject to the same physics principles and behaves in the same way, just not in such an exaggerated one.

Real world

At first sight you could think that my example isn't a good one, that the extreme angle between rod tip and line isn't found in real world casting. Well, guess what? In fact it is a pretty common occurrence; sometimes made on purpose:

• **Oval cast**

You can see that by making my oval backcast low and parallel to the ground and then raising the rod tip high before making my forward cast stroke almost parallel to the ground, I break the 180 degree rule because my line starts angled sharply upwards and a very wide safe loop results.

The first nine meters of a #5 line weigh around nine grams; now think of the effect of a very dense four gram tungsten beaded nymph instead of the very light piece of yarn used on that video above: it would fall faster during the overhead forward stroke, and it would

climb up higher during the oval cast forward stroke. Oval casts keep rods and human heads safe due, precisely, to line and rod tip following different paths.



<https://vimeo.com/246657088>

• **Hooked line**

Forward stroke perfectly straight but a hooked layout? A momentum tug of war is at play:



<https://vimeo.com/25940661>

Follow Me, Please *continued...*

• *Line dangle*

Dog-legs speak of some momentum challenge as well:



<https://vimeo.com/246652322>



<https://vimeo.com/26521870>

That the line doesn't necessarily follow the rod tip path is crucial to analyse spey problems:



<https://vimeo.com/39587604>

Corollary

The fly line follow the rod tip path perfectly. . .only if it is perfectly straight and pointing exactly in the trajectory that the rod tip is going to describe.

Are these things relevant? For a casting geek as myself just discovering how casting works is a pleasure in itself. From a more practical standpoint, I think that this knowledge gives a casting instructor a broader perspective to solve a more complete array of problems.

Nothing new under the sun!

I re-read the fly casting books in my library with some regularity.

Follow Me, Please *continued...*

Strangely enough, when I was about to finish this article I came upon an interesting insight by Lee Wulff on his ***Trout on a Fly*** book (bold is mine):

Many fly casters in making their back cast stroke move the rod butt in a convex arc. If they continue this arc beyond the point where the line leaves the water on the pick-up they will be throwing their back cast "down" behind them... they are surprised and disappointed when the following forward cast drives up into the air instead of out toward the target because it wants to go 180 degrees from where the back cast started.

That book was published in 1986 and I bought it 15 years ago. It took me a long time to understand what Lee already guessed decades ago. There is nothing new under the sun.



About the Author:
Aitor Coterón, CI, is a teacher and student of flycasting based in Bilbao, Spain.

He is internationally known and respected for his innovative use of empirical evidence and science to advance the collective knowledge of our sport.

Contact him through his website, <https://onemorelastcast.wordpress.com>



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Shauna Williams fishing the Owyhee River, near Boise ID

LOST IN TRANSLATION:

HOW YOU REALLY CONTROL YOUR ROD TIP PATH

by Mark Surtees, MCI, London

Anyone who is brave enough to make public comment on casting instruction and to share their ideas with other anglers is to be much admired.

The only original instructional concept I ever had involved leeks. Being only one idea, this was limiting from an instructional point of view and so I have had to become an ideas thief. There is a huge resource for us out there, generations of experience instructing in the field is presented in a variety of forms. It is processed through books, DVDs, internet forums and magazines, delivered in show demos, workshops and CPD events, passed on from mentors, from family and from your mates.

Just because a concept is published, however, does not mean that it should necessarily be taken as fact, even if the source is an internationally recognised organisation, caster or coach.

Sometimes an honest belief becomes deeply entrenched because it is endorsed, recycled, repeated and reinforced. It becomes entrenched, not because it's true or because it works, but because it came from a respected authority, even though we may have forgotten, or never knew, who this originally was. When an idea like this becomes fixed in the collective consciousness, it becomes practically unchallengeable. Most good instructional concepts out there are easy to understand.

The best are very simple, some are simple but just plain wrong, some are simple and effective despite appearing at first to be a little bit weird because they involve leeks, and some are too simple for their own good.

For example, many of the sources of our instructing knowledge (including texts recommended by instructional organisations) suggest that casters match the Casting Arc of the rod to the Bend in the rod to produce a straight-line path of the rod tip. As a concept, it's neat, short and pithy, it sounds OK in theory, it's easy to say and you can even draw it on paper for publication. A relationship certainly seems to exist...but is this the whole story?

Some Simple Mechanics

For conventional analysis of a **Casting Stroke** we use the term Casting Arc to describe the size of the angle through which we rotate the rod, and **Casting Stroke Length** to describe the rectilinear distance over which we translate the rod.

If a rod only rotates, that is all it has done. If a rod only translates, then that too is all it has done. If a rod rotates and translates simultaneously, both linear and angular changes of position have occurred.

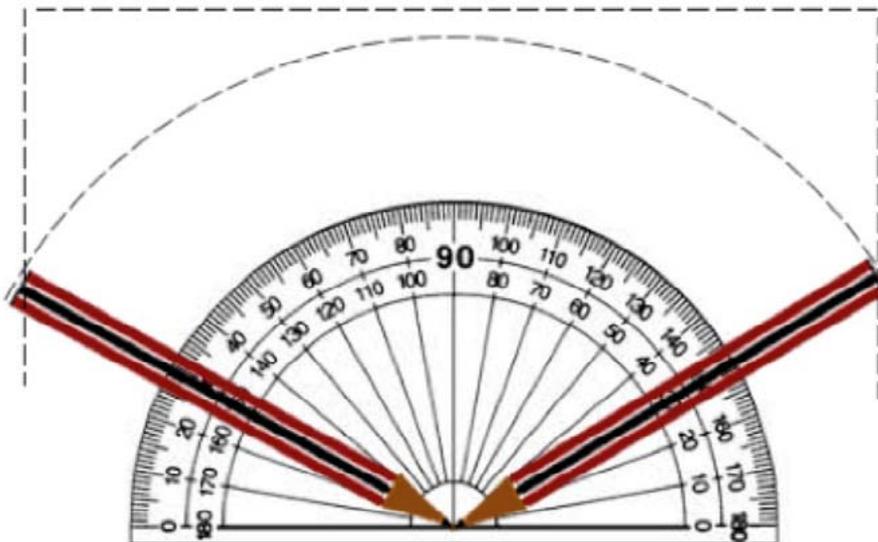
How You Really Control Your Rod Tip Path *continued...*

This co-occurrence, or overlapping, of rotation and translation in the process of moving a rod, is what usually takes place when we make a cast.

The rod is a tool which, when it rotates, converts a small motion at the butt end into a big one at the tip.

The tip moves further than the butt in the same period of time and therefore it goes faster. Under rotation, the rod is a speed and distance magnifier; under translation, it is not. Tip velocities influence line velocities.

ROTATION ONLY



Graphics by Tim Rolston

Rotation is an angular change and a multiplier. Little movement of the rod butt provides maximum movement of the rod tip. It will depending on the rod bend, tend to produce convex rod tip path.

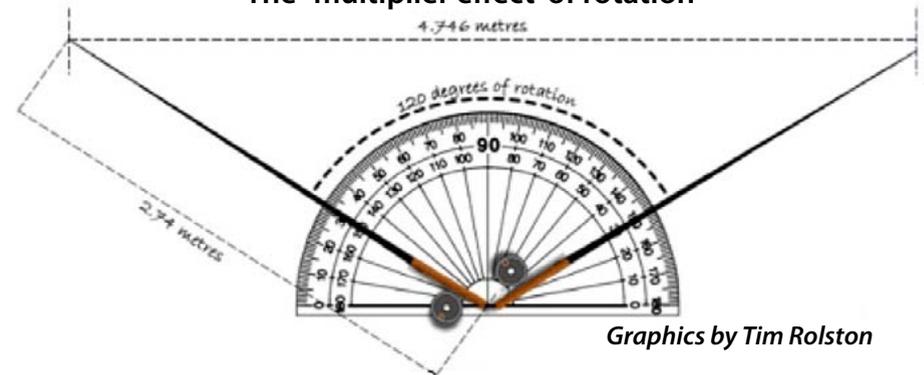
When we apply a force to the rod, it bends.

How much a rod bends varies depending on its material properties, the weight of the line being cast, the magnitude of forces applied at the butt, and friction at work on the system.

If we continue to apply force to the rod it will accelerate.

Angular acceleration comes via rotation, linear acceleration via translation. The rod converts the angular force that is making it rotate, a torque, into a linear force that works on the line.

The "multiplier effect" of rotation



Graphics by Tim Rolston

A nine foot (2.74m) rod, rotated through 120° will produce 4.746 metres of linear acceleration

Adding translation to rotation increases the distance of tip travel and thus contributes to final tip speeds. This is because if we apply a force to an object over a longer distance it will end up going faster than if we applied the same force over a shorter distance. Think about the speed of a car, if it accelerates at a particular rate for one mile it will be going faster than if it had accelerated at the same rate for half a mile.

How You Really Control Your Rod Tip Path *continued...*

Similarly, if we are looking to achieve a particular speed, then we can apply a high force over a short distance or a lower force over a longer distance. There's more than one way to get your Ferrari to 60 mph.

The rate at which the butt and the tip accelerate will differ due to the slow bending and rapid unbending of the rod during the casting stroke.

And...

As we rotate, the shape of the bend changes with the angle of pull between the line and the rod.

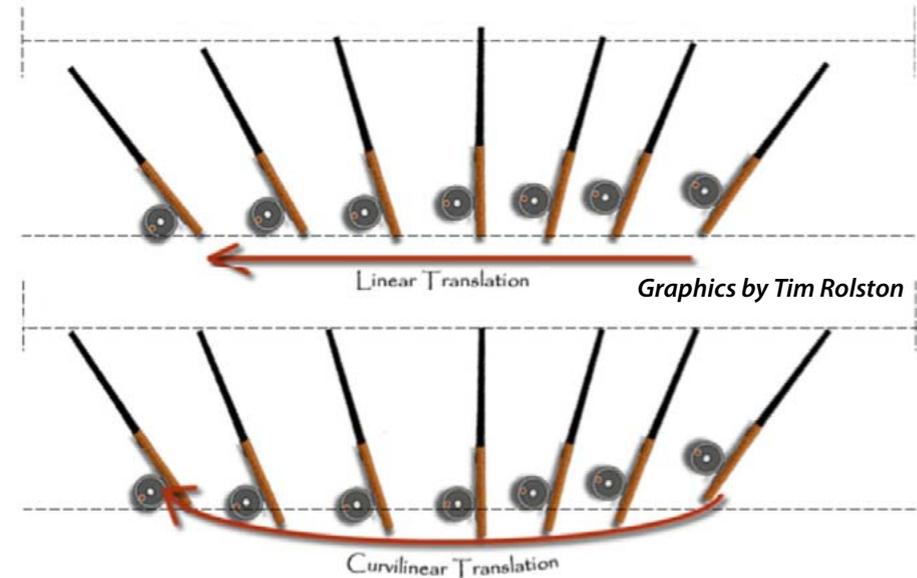
That's a lot of stuff accelerating, bending and unbending all at once.

To simplify things, imagine what would happen if the rod didn't bend? Could we make this imaginary rigid rod rotate and get a straight path of the rod tip?

If matching Arc to Bend is the only way to achieve SLP, such a thing would be impossible because there's no bend to match to. . .right? The good news for casters is that translation comes in more than one flavour and it can be made in any direction. Curvilinear translation is a non-rectilinear or curved translation. So, if we add this to the mix, we can get a beautiful SLP with our completely non-bendy rod by shaping our hand path to counter the convexity of the tip path caused by rotation.

You can easily demonstrate this biomechanical party trick with a chopstick. If you try it with anything bigger, (which I have), it will probably hurt, so it's best to leave long, unbendy rods as imaginary.

LINEAR AND CURVILINEAR TRANSLATION



*Because translational path will affect rod tip path
Curvilinear translation can be use to achieve SLP*

However, by removing bend, we create a physiological issue.

The new problem is that the body movement, in the form of the hand path, required to counter the convex path of the tip, must be as concave as the unadjusted tip path would be convex. For a rod of any useful length, and tip velocities of any sort of casting value, this motion can be extreme, involving a dipping and rising movement of the hand, which makes the smooth input of force by the caster much more difficult.

When we add flexibility back in, bit by bit, hand paths become incrementally less extreme for a straighter tip path.

How You Really Control Your Rod Tip Path *continued...*

Bend therefore gives us a biomechanical advantage. We are able to input more force, more smoothly and control the force vectors at the butt more easily the fewer changes we have to make to the direction of our hand path . . .and it stops hurting.

Back in the non-imaginary world, controlled, curvilinear hand paths are particularly evident in competitive distance casts. Here, the hand paths are almost spoon shaped to counter rapid unbending during delayed rotation towards the end of the casting stroke.

Even with flexibility in the rod, managing translation in the form of the Hand Path remains a critical means of managing the tip path. Once you begin to look, you will find similar examples everywhere.

Manipulating Rotation and Translation

If we can manipulate rotation and translation to increase or decrease the distance the tip travels over time, then we can increase or decrease the force that we need to apply at the butt to achieve a particular tip velocity. If we reduce the force we apply at the butt then we reduce the net force working on the whole rod and therefore we reduce the bend. . .or vice versa.

So, if we can use rotation and translation to control the size of the force we use at the butt, then, for any given mass of line, it is the relationship between rotation and translation together and the consequent effect on force, that influences the size of the bend in the rod during the Casting Stroke.

Casting wise, bend helps deliver smoother force input as we have identified above. It means that when we stop the rod we don't have to stop the entire mass of the rod all at once, it takes its time

to settle down and we're all a bit less likely to get tennis elbow as a consequence. Personally, I find it easier to play fish on bendy rods too. Nevertheless, on the face of it, exactly how much a rod bends and the changing shape of the bend over time remains a byproduct of other inputs. Whilst we become accustomed to the behaviour of our favourite rods and moderate our inputs accordingly, making a rod bend should not, in my opinion at least, be a principal objective of a caster. If we apply force to it, bend, it will...

So let's say we have a loop form and a line velocity which is not to our liking. What can we do here?

Yes, we can make the Casting Arc bigger or smaller. If we change the arc we change the distance of tip travel so we can, if we wish, change force. This alters the bendform, the shape of the tip path and has a significant effect on tip velocity. This is the source of the original Arc/Bend proposition and is a common remedy for many casting faults... but it's not the only one.

We can increase or decrease Casting Stroke Length, the rectilinear distance that we translate the rod. This also changes the distance of tip travel so we can change force, alter the bendform and the shape of the tip path. It too has an effect on tip velocities and, for many instructors, is a mechanism for moderating or smoothing force, something which is particularly useful for dealing with tails.

We can change the force. This has an effect on tip velocities, in isolation it doesn't alter the distance of tip travel but changes the shape of the tip path because it alters the bendform. "Less Force" however you choose to word it, must be one of the most used expressions in the instructors manual.

How You Really Control Your Rod Tip Path *continued...*

We can change the shape of our hand path. This changes the shape of the tip path but does not alter the distance of tip travel, has little or no effect on force or bendform. It is present everywhere but most visible at the extremes, extremely stiff or bendy rods, extremely long casts. I think that only extremist instructors teach it... for the rest of us, it is almost a reflex.

In fact, notwithstanding our physiological limitations and our personal rod preferences, we vary the mix between all of these things. We change the size of our Casting Arc, the shape and length of our Hand Path, and Force, together, in order to perform a vast variety of differing Casting Strokes. . .some of which will produce tip velocities that include a SLP.

To be clear, this is not to say that we don't use Arc to help mediate tip path, we definitely do, simply that, it does not act with bend as its only mediating partner. Arc, through rotation, may be the dominant element in delivering Tip Speeds, but it works in lock step with Force and Translation, in the form of Hand Paths, as an equal partner in delivering Tip Paths.

Do we consciously match the Casting Arc to the Bend to get a SLP then?

To me, given all the other variables involved, it seems highly unlikely.

And, if the idea that tip path is controlled by a strictly binary relationship between Arc and Bend is not the whole story, what does this mean for instructors?

Except in the company of other instructors we may not use the terms

Arc or Bend, or any relationship between them in a lesson at all. Like many others I try to avoid confusing jargon if I can. So, in truth, the answer to what it means for instructors in the field is probably a big nothing.

For instructors in a bar though. . .?

. . .that's going to be a very different story



*About the Author: **Mark Surtees** is an MCI based in London. He is a regular instructor for the British Fly Casting Club with a particular interest in the use of common garden vegetables and salad items in casting lessons.*

Preparation for MCI:

ONE MAN'S PATH

by Leigh Dowell, MCI, Victoria AU

Any journey needs a beginning and an end. My path to MCI certification began with a weekend two-handed course with fellow Australian, MCI Brian Henderson. I was interested in the two-handed rod but also wanted to spend some time with Brian after meeting him at my CI certification event six months earlier. On the final evening of that weekend Brian suggested that I look into testing for my Masters, he thought I would be good at it (with a lot of work, of course). He had planted a seed. On the plane ride back from that weekend, I had time to think. Brian had given me a compliment and he's a man I respect. On my homecoming I told my wife that I might go for my masters.

"I already knew this," she said, followed by, "When is the test?" "Sixteen months away, to the day," I said.

"Get it done then," she said.

Now the beginning and end had been set, I just needed to fill in the gap.

I got on the phone to Brian Henderson and asked him if he would mentor me. He was totally on board. I believe the number one secret to success is getting the best mentors you can. With this came



difficulties, as Brian was five hours away by car and plane. My second and equal mentor was Matthew Howell. He had trained me for my CI, so he needed to be part of this. He was on board also.

One Man Path *continued...*

Due to distance and time, I could only see Brian about every three months. I had work and family commitments as well. I would catch up with Matty in-between. So I would see a mentor around every month and half and work my butt off in-between.

My training was a commitment, and I was strict in keeping it. Every night, every day, every hour I would think casting. I would cast in the morning before work, even if it was only five false casts, I needed the rod in my hand to feel I was doing enough. Every night after work I would cast until dark. I put flood lights in my yard so I could cast into the night.

My wife and family understood my commitment. In fact, their support was one of main reasons I succeeded. Believe me this is the most difficult part of the Master's journey. My wife often commented that she could not wait to get her husband back. My youngest son (seven years old) struggled because I didn't play with him. This hurts me still today as I write. The training to me was easy because I love doing it. I did most of my casting in my backyard. I had the MCI course set up and only had to leave to do my distance and on-water training. I wore the grass away from where I stood. I also wore out the tip top of the rod.

I set up casting devices to measure and improve my wiggles and curves. For wiggles, two targets, one six-foot and one three-foot. My mends where made to markers around cones. My curves where made around the cone and the fly landed in a target. Every cast was analyzed. Every loop and lay down shape was questioned. *Why?*

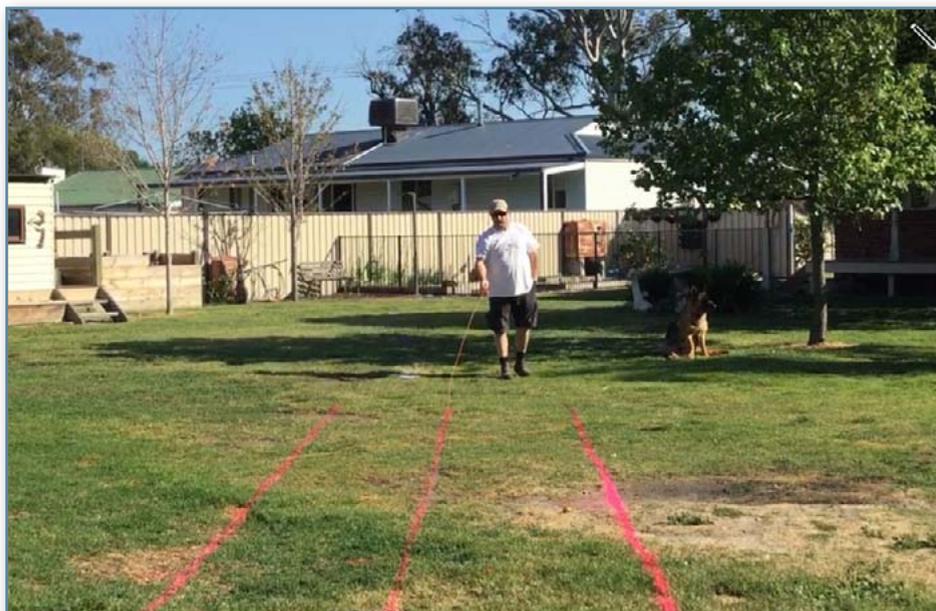
'Why' is the next secret to success. Why do I have that wobble in that leg? Why did I get that lay out?

When you can start to answer all these 'whys,' you are beginning to become a Master.



I cast in all weather--rain, hail or shine. I watched DVDs and read books, 17 books in 16 months. For one who is not much of a reader, that had a huge effect. Casting books are difficult, and I enjoyed some more than others, but I learned something from all of them. I was also lucky to have Aussie MCI (and Associate Loop editor) Peter Morse ask if I would like to join him on a few of his classes—and excellent opportunity, even if one of them was an eight-hour drive. Brian once said to me: "It is you and you alone that make the casts in the test. You need to understand things in your own way to be successful." I believe this to be true. Don't expect to be given the answers, instead, find the right people to help you look.

One Man Path *continued...*



One bit of advice I stress: Don't sit for the test until you believe in yourself. On the day of my test I was as ready as anybody, but when my examiners came out, so did the nerves. I always knew they would. You should expect this, and you should never expect to cast your best on test day. So your best needs to be much better than test requirements.

On test day it's you and you alone in the paddock, but, if you have put in the time, this should be a familiar place. You want to show and shine. On my day I had huge expectations of myself not to let my family, mentors and friends down. It was as much for them as me. This journey is one of the biggest things I have undertaken. Honestly, it was a very emotional day for me, especially when I was told I had passed.



I would like to thank my family for their support and my mentors for their time, wise words and friendship. Additional thanks go to my examiners, Mark Huber and Carl Zarelli, for their time and professionalism.

Key points for success:

- **Commit yourself.** This commitment takes a lot of time. Prepare for it. If you have family, get them on-board. This requires a team effort.
- **Get the best mentor you can.** I can't stress the importance of this.
- **Practice with purpose.** Idle, undirected practice won't be enough. There must be a purpose to every minute you are working on this task)

One Man Path *continued...*

- **Ask why.** Question everything, and find the answers. (“Adapt what is useful, reject what is useless and add what is specifically your own.” – Bruce Lee)
- Keep a diary and track your progress. I logged my hours in the park for my own reasons. And I made notes on my thought at the time. Thoughts may have changed during the process, but, in the end, you’ll have a more complete understanding.



About the Author: **Leigh Dowell** first picked up a fly rod nine years ago and has been on a ride ever since. He achieved his MCI certification in 2016.

He fishes for trout, Murray cod and other natives in local waters of North East Victoria and travels to Northern Australia for species like permit and barramundi.

Interested in Becoming An FFI MCI Certified Instructor?

Preparing for any FFI test takes time, commitment, and honest evaluation. The CICP and CBOG have prepared these references to help you pass the MCI test. However, there is no substitute for the candidate’s commitment to achieve a positive outcome.

Follow the links bellow to direct you to the MCI informations on FFI website:

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FFI Grows in Sweden

by Thomas Berggren, MCI & THCI, Sweden

Sweden has a larger percentage per population of FFI certified instructors than most of the world's biggest countries, more than the US, Germany, or the UK. If we're measuring population, Iceland has the highest Instructor density with 0,00090% of the population being a qualified FFI instructor. The USA has the most instructors, but per percentage-wise, they have 0,00029% of the population certified. Sweden has 0,00014%.

But, don't too hung up on these numbers. My point here is simply to highlight that, although Sweden is small in size and population, we still have a significant proportion of FFI members and instructors.

And now many factors indicate it will keep on growing. When CICP first reached Sweden, there was only two registered Instructors. By 2011 five new candidates passed their tests and we were 12 Instructors in the small country of Sweden. Unfortunately, some instructors left the organisation for different reasons between 2011 – 2014. By 2015 we were down to 6 Swedish instructors again. Thanks to the great FFI work and development of the CICP and the new EDP, we decided to set up a plan for the continuing work to get more Swedish people to see the value of what we are doing in FFI. We were able to negotiate to get a free exhibition space at the biggest sportfish fair in Scandinavia in March 2017. The result in that fair was good and the interest for FFI increased a lot. All this work and increased interest made the way for organizing another CICP event in Sweden.

CICP Event #0217 Lilla Malma Fishery, Sweden 7 – 10 September 2017
It was a busy event with 15 candidates for 16 scheduled tests. Six THCI, 3 MCI and 7 CI tests. The CI written tests and workshop was divided in two groups, one on Friday and one Saturday. We also held an EDP Level 3 Workshop, both indoor and outdoor session and several EDP validations, such as L1, L2 and L3 observations, L3 Second examiner, L3 PPC, L2 and L3 Supervised Leads.

I would like to send many thanks to the examiners, EDP candidates and EDP faculty team: Bryan Martin, Brian Mc Glashan, Lasse Karlsson, Bernd Wiesbauer, Mark Surtees, Chris Hague and Lars Jakobsen.
High Pass Rate

Most candidates were well prepared and had taken multiple mentoring and pre-tests. We passed 10 of the 16 tests. Congratulations to all of them. See The Loop issue 2017 Dec-2018 Feb to read the names of all the successful candidates.

I would like to mention some here, however: Tellis Katsogiannos is on our team now. He is the world champion gold medalist in 15' spey casting and silver medalist in 18' discipline. Tellis passed both CI and THCI at the event. Also, welcome Silja Longhurst, who passed her THCI and has won several trophies in World Championships, too.

One of the successful CI candidates wasn't supposed to take the test because the test schedule was fully booked when he applied.

FFI Grows in Sweden *continued...*

He was put on the wait list and kept emailing me every week if there was any cancel. One week before the event I informed all the candidates on the wait list that we must close the list. Jan Eckmann from Schweizkept emailing me with pictures of his packed bag and rod with the message "I'm still ready to go." Well, on Friday of the exam day, we had a cancel. Jan arrived in time for the workshop and written exam on Saturday morning. He passed his CI performance next day.

One of the MCI candidates, Staffan Dahlbom passed his CI in 2009 and had been practising for MCI since then. I have encouraged him to take the test in 2012, but he said there is no hurry and he wanted to had a very clean pass. He told me before the event that he could help with the event logistics if he should pass. With that in mind I suspected he had a good chance to pass and his test was therefore planned to be the first exam of the event. Staffan passed his MCI and for the rest of the weekend he had to barbeque wild boar and work as a logistic and food service assistant.

I would like to thank all candidates and their relatives for the good spirit to join the event. On Saturday night there was a big wild boar barbeque feast for everyone.

Next Step for Sweden? More Fly Fishers and Casting Instructors
Now we are in full planning of the Swedish Sportfish Fair 16-18 March 2018. Last fair there was 14-15 000 visitors and this fair is held in the capital Stockholm and we are expecting a bigger number of registered visitors. Twelve of the 14 certified instructors in Sweden will attend and we will get help from Denmark as well. At least six of us will work full time and some only for a day and some will be represented as FFI instructors to be met in the exhibition booth for the brand they also represent. There will be a lot of FFI promotion,

instructions, casting shows each day and for the casting competitions I think the FFI team has been much stronger with the newly added Swedes.

We invite all members and instructors all around the world to visit this fair. You all are very much welcome to just visit or join to help. The ones who help will get entrance for free.

For 2018 we will keep promoting and marketing our FFI programs and we plan to run another CICP event in 2019. The upcoming event will be advertised at FFI webpage for booking one year ahead from the decided event date. Our plan is to grow from 0,00014% to 0,00020% in 2018. Our vision for 2022 is to reach 0,00030% of our Swedish population to be FFI certified.



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NEW REGISTERED INSTRUCTORS

Newly Certified Instructors listed according to test date.

First Name	Last Name	City	Region	Certifications	Country	Test Date
John	Adametz	Oxnard	CA	MCI	United States	01/23/18
Paul	Boals	Denver	CO	CI	United States	01/12/18
Matthew	Gregory	Bath	Bath & N.E. Summerset	CI	United Kingdom	03/25/18
Michael	Haines	Naples	FL	CI	United States	02/08/18
Peter	Hastings	Haddington	ELN	CI	United Kingdom	03/25/18
Dominic	Macqueen-Hewitt	Kilburn	London	CI	United Kingdom	03/25/18
Gibson	Marina	Leyburn	North Yorkshire	CI	United Kingdom	03/25/18
Dennis	Panish	San Diego	CA	CI	United States	02/11/18
Ralph	Pike	Naples	FL	CI	United States	02/08/18

For incoming test date and other CICP events information, please visit:

<http://flyfishersinternational.org/Casting/CalendarofEvents/tabid/616/Default.aspx>

The Editorial Team



Eric Cook is an MCI and a member of the CBOG. He is a degreed Mechanical Engineer from Atlanta GA, USA. Eric fishes for carp. Cook is the editorial director of *The Loop*.



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Peter Morse MCI is a professional Australian fly fisherman of many years who fishes in all waters for all species without prejudice. He is the author of countless magazine stories and 3 books, as well being a television presenter and script writer.



David Lambert, MCI, Florida, USA, is a journalist and editor who works in both print and digital media. He is managing editor of *The Loop*.



Bruce Richards, MCI, Montana, USA, designed many great lines for Scientific Anglers and wrote the seminal work, *Modern Fly Lines*. He is a former chair of CBOG and was instrumental in the development of the Casting Instructors' Certification Program (CICP). He is an associate editor of *The Loop*.



Brian DeLoach, associate editor, is an MCI from Tennessee who teaches high school literature and composition. He's also an adjunct English professor at Lee University in Cleveland, TN, USA, while he pursues a Ph.D. Brian is one of three FFI instructors who teach Introduction to Fly Fishing, a fully credited course at Lee University.



Bintoro Tedjosiswoyo is a CI & THCI who lives in Melbourne, Australia. Bintoro is a commercial graphic designer and illustrator, he is *The Loop's* graphic design editor and illustrator.

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