

About 1900 words

Datus Proper
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FISHING THE GEOLOGY

The structure of the earth shapes the angling
in three trout streams.

There was a time when I picked up pretty stones and put them in a cardboard box, trying to possess nature. They were out of place. I wish now that I had left those fragments of the earth's history where I found them -- petrified wood on a river's bar, polished greenstone in a brook trout's redd, fossil shells in a stratum of limestone. The best thing about rocks turns out to be the infinite variety they give to running water, and to the ways we fish it.

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The stream starts in a cirque, which is a hollow scooped from the side of a crag by the glacier. From there Hellroaring drops rapidly, eroding an alpine landscape, cutting through strata that formed in warmer times before the Rocky Mountains were pushed upwards. Think of the strata as leaves in the earth's book. Bits of the pages now crumble and wash downstream, words from a very old tale all jumbled together. I cannot decipher most of the stories in the stream's bed. One that I can read, however, comes from the chunks of petrified wood, growth-rings of long-dead forests still visible.

In these upper reaches the glacier carved a steep, narrow channel, leaving Hellroaring Creek without wiggle-room. There are no big pools here, no meanders, and very little stability. Some of the rocks in the bed move downstream every spring when melting snow rushes through the valley. The habitat sounds inhospitable to trout and the insects they feed upon. In fact, however, the stream constructs its own micro-geology within the torrent, and the fauna adapt. The way it works is one of nature's nicer miracles.

What happens is that the gravel and small boulders form bars across the stream, dissipating the energy of its flow. In the shelter of these bars, there are pockets of relatively calm water -- typically one pocket above the rocks and another below, where a miniature cascade digs into the bed. The arrangement seems accidental and impermanent, but then so does the rest of life. The fragile structures turn out to be regular in their

succession, new bars forming when the old wash out, order triumphant over chaos. Not many fish would be aggressive enough to make a living in this fast-moving world. One, however, evolved for the task: the rainbow trout, almost mineral its silver strength.

Down where the mountain's flank is less steep, Hellroaring Creek lowers its voice. There is room here for willows and alders to secure the banks. Aspens and spruce trees grow tall above the brush, fall across the current, and build pools that may last for several years. In this stretch, the places you fish determine the trout you are likely to catch. Rainbows still dominate the faster mid-stream lies but brook trout thrive in deeper, slower currents under the banks. The cutthroats are weak from late-spring spawning, so they take shelter in the stream's least stressful cover, often a log-jam. The big browns are the toughest of all to find. You may not guess that they are around unless you fish during a shower, at which time they come out to feed.

There is plenty for the fish to eat -- flat-bodied mayfly nymphs on the rocks, stonefly nymphs wriggling into the substrate, and caddisfly larvae hiding in cases made from grains of sand. Hellroaring's insect population is divided among so many species, however, that the trout are not encouraged to be selective. A size 8 or 10 wet fly fished upstream usually works -- perhaps because it is easy for the fish to see and to grab, even in broken currents. A century ago, there were more cold, full streams throughout America, and the old boys knew what they

were doing with their big winged flies.


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Dogwood Run trickles down from the Blue Ridge, two thousand miles east of the Rockies and older by a geological epoch. The Appalachians have worn down to hard "basement rocks" -- a structural difference that changes everything about the fishing. In Hellroaring Creek, water moves rock, but here in Dogwood, rocks hold the water back. In a sense, this brook is more stone than liquid.

The ledges -- greenstone, mostly -- form frequent waterfalls. None of them are high, as cataracts go, but the plunge-pools at their feet are deep enough to give native brook trout a refuge from watersnakes when the flow shrinks. During the Mid-Atlantic region's long, dry summers, the stream is a thin vein on a hot body of mountains.

Between the falls, granite boulders seem carved in place. Supple currents curl around the sides, strong enough to shape the stone but not to wash it downstream. The great rocks of Dogwood Run are as individual as humans, rounded but never regular, polished but never smooth. Here and there the flow funnels through a granite trough, a trickle so thin that you could almost drink it. More often the boulders magnify the water, impounding it briefly and then aerating it as it splashes down into the next pool, fine frothy habitat. You clamber up a boulder, peek over, and guess where the trout ought to be. It seems odd, on a slope so steep, to fish flat, still water.

Nymphs work well in the stair-step pools, but mostly I stay with a dry fly because I can let it float on a slack leader and still see a trout rise, if a trout should be so inclined. These fish grow accustomed, over the three summers of their lives, to feeding on terrestrial insects that fall from the banks or the forest canopy. The water produces food less frequently than the trees above it.

And besides, the dry fly looks like a petal on dark water. I feel an obligation here, a need to do something respectful. I get back to the Appalachians just once a year, and who knows? I might miss the funeral. Virginia's 450 trout streams are downwind from America's worst emissions of sulfur and nitrogen. The rain is ten times as acidic as uncontaminated precipitation. Saint Marys  [sic] River, not far south of Dogwood, has already lost most of its rainbow trout and mayflies. Brook trout -- which can tolerate greater acidity -- still spawn on shiny pebbles every October. No one is sure how long the fish can last.

Dogwood Run is healthier, for now. Its watershed looks much like that of St. Marys but is in a different geological formation, one better able to neutralize the acid deposited by rain. Buffering capacity, it's called. While it works, the soil filters the bad water and some of our nation's leaders filter the bad news. The stream will seem normal while the soils around it retain the sulfates. One day, however, the buffering capacity will be exhausted. Compare acid rain to cancer. You live while

the chemotherapy works. Then you don't.

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If Hellroaring is an unstable channel and Dogwood a series of hard-rock dams, then think of Humility Creek's geology as a sponge. The water begins as precipitation on the mountains, like that of both other streams, but seeps down into the water table instead of running along the surface. Then, in the valley at the foot of the mountains, the flow emerges as a spring creek -- full, clear, and cool all summer.

Climb a mountain and see the shape of it all. There was a lake down below, not many millennia back, and the valley's broad, circular floor still looks aqueous in the mists of dawn. You wonder what races of huge trout once cruised down there. The floor is now "fill" -- layers of sediment washed from the ring of mountains, then covered with fertile black loam. The lake is still down beneath the topsoil, though, hiding in the gaps between rocks and particles.

Fortunately for us fishermen, some of the fill came from soft calcareous strata. Dig a pit and you may even find lumps of chalk. The water of the springs is alkaline -- enriched by calcium that formed the shells of creatures in a primeval sea, then became a layer of limestone, rose with the Rocky Mountains, and rolled downstream. The bequest of ancient crustaceans now builds the chitin of a mayfly's exoskeleton. There is a lot of recycling going on in Humility Creek.

Each brown and rainbow trout does its best to recycle the

mayflies. The sun warms the endless meanders; the insects hatch; the fish sip hundreds of tiny, identical prey. Sounds like a lazy way to make a living. It's not. These are supertrout -- survivors of encounters with herons and ospreys and humans. Spring-creek fish are bigger and faster and more wary than those in less fertile streams.

Here you cast twice as far as you would on Dogwood Run and one-tenth as often as you would on Hellroaring Creek. You wait till a trout rises steadily to a hatch of mayflies. Then you tie on an artificial fly that looks like the natural insects and cast to a rise. If the fly is not taken, you wait for another rise before you cast again. Lots of anglers know the method these days -- spring-creek angling is in demand -- but even the experts get humility lessons from these trout.

Still, you succeed sometimes. You remind yourself not to spoil everything by rushing. You refrain from looking over the side of a pool to see if there are trout present. (There are, but they would see you too.) You wear high waders and sit in the water to cast, keeping yourself below the fish's line of sight. You watch your fly drift down to a dimple of a rise, and the sudden violence that follows is shocking in a scene so placid. Your hooked fish flings itself a yard into the air once, twice, three times. Do you know the sound of a trout vibrating in the air? You can hear it above Humility's quiet flow, audible as a pheasant's wingbeats.

This is easier on your legs than the other kinds of angling,

but harder on your brain. Whether you like it more or less depends on your temperament. It is simply a different game.

They are all different, I suppose. The streams change with every fold of the earth's crust; the trout evolve with the streams; and we anglers adapt to the trout. To fish is to learn our place in nature's rock collection.

Sources

There has been much research both on geology and the biology of trout, but not much that I am aware of on the interaction of the two. My main scientific sources were papers titled (1) "The Evolution of Salmonid Stream Systems", by Burchard H. Heede, and (2) "Acidic Deposition and the Status of Virginia's Wild Trout Resource", by J.R. Webb and others. I have also drawn information on St. Marys Run from a book titled A Fly Fisherman's Blue Ridge by Christopher Camuto (Henry Holt and Co., 1990).

August 3, 1992

Mr. Slaton White
Field & Stream
2 Park Avenue
New York, NY 10016

Dear Slaton:

Here's the story we discussed on fishing and geology. I had a lot of fun with this but may not have the right mix of nature, mood, and method. Will rebalance if you wish.

I've enclosed slides for each of the three streams mentioned. Some shots might work and others should at least serve for ideas.

Yours,

Enclosed: "Fishing the Geology"

3 sheets of slides

Page of notes on pictures

Diskette

In the alpine spring, Hellroaring is a torrent [] and the right place to fish in somewhere else. In autumn, the water is low enough that the little pools formed by the transverse bars are flat, best fished from a distance with a small dry fly or nymph. For most of the summer, though, and over most of the stream, the surface of the water is broken and the fish are easy to approach closely. My choice then is to fish upstream with a wet fly.

[but I failed to see the pattern till it was pointed out by a hydrologist [named Richard Heede.

Pictures for "Fishing the Geology"
Datus Proper

3 sheets:

1. Hellroaring Creek. Slides are weak. Any picture chosen should show a fast, alpine stream without major boulders. Paul Updike probably has good photos.

2. Dogwood Run. Some slides may work if a female angler is acceptable. Picture should emphasize boulders/ledges. Must be in southern Appalachians. Harry Murray might have better shots.

3. Humility Creek. These look OK to me. All pictures catch the nature of the stream -- meadow, spring creek, no exposed rocks.

FIELD & STREAM®

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June 25, 1992

Datus C. Proper
1085 Hamilton Road
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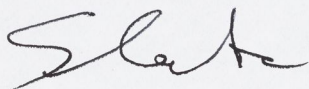
Dear Datus:

Thank you for making my trip such a pleasure. And please thank Anna for me for the wonderful staff dinner and her excellent pasta salad. (Any chance I can get a copy of recipe? My wife would love it.)

Humility Creek is aptly named, but I loved every minute on it. I appreciate you taking the time to fish with me; I learned a lot.

You might think of a piece dealing with small mountain streams. You've got the experience East and West to pull it off. I especially liked your expression: "fishing the geology." Such a piece--with your usual mix of mood and how-to--would be really interesting. If you agree, give me a call and we can discuss it at greater length. ?

Best to all,



Slaton X 5289

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