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4-1

Paul Scoles

## CHAPTER FOUR

# Rocks aren't hard

A layer of more-resistant rock caps the eroding mesa in the background in this evocative portrait of Western railroading on Paul Scoles' Sn3 railroad. He fashioned the rock faces by applying fast-setting dental plaster in rubber molds, as he explains in a DVD on making scenery.

As I stated in the introduction to this book, anything's easier to model when you have "plans" for the prototype. That's true when you're trying to replicate the look of a particular geographic area, and especially so if there are visible rock formations (4-1). A rock face that formed when sheets of lava flowed over or between sedimentary layers near the surface and rapidly cooled won't look anything like granite or sedimentary rocks. Similarly, a "young" mountain chain such as the Rockies (4-2) will only faintly resemble the ancient Appalachians, especially in the north where they've been "ground round" by bulldozing ice sheets. Learning how rocks formed makes it easier for us to model them.



4-2

Eric Brooman

A gentle upward-bowing in layers of sedimentary rock is clearly visible on this hand-carved cliff on Eric Brooman's Utah Belt. Eric varied the color among layers to represent different periods of deposition of the beds of sea creatures, sand, and mud that were later compressed into rock.

### Types of rocks

I wrote an overview article about rocks and geology that appeared in the September 2005 *Model Railroader* titled "Rocks aren't hard." My point is that you can quickly learn enough about how rocks were formed, and later reformed and deformed, to model them realistically.

It's hard to model rocks realistically without a "blueprint." That blueprint is a general understanding of the basic types of rocks, how to tell them apart, and where they are likely to be encountered. Overlaying the route of your prototype-based or freelanced railroad on the accompanying geological province map (page 40) is a good place to start. No need to memorize it, but there will be an open-book test when you build the scenery on your model railroad.

There are three basic types of rocks: igneous (think "ignite") rocks, which were formed as magma cooled; sedi-

mentary rocks, which formed as earlier rocks were eroded by wind and water, built into layers, and compressed; and metamorphic rocks, which were originally igneous, sedimentary, or even previously metamorphosed rocks recast by intense heat and pressure.

For our purposes, we can make it a bit simpler than that: Either the rocks have a discernible geometric pattern – the distinct layers of sediments, no matter what their orientation (4-4 through 4-16), vertical columns of solidified magma (4-17), or "joints" that weather into distinctive blocks, to cite three examples – or they are massive monoliths of rock (4-18). The latter could be an outcrop of cooled magma or a single very thick bed of sandstone, limestone, or shale, but for all practical purposes, they are simply "big rocks." There are no clear layers piled one atop the other.

When we examine a rock outcropping, we should look for distinctive

geometric patterns or shapes. If we find them, we need to select rock castings or carve setting plaster into similar shapes using the actual rocks as a blueprint. Beds of sedimentary rocks separated by many yards or even miles may exhibit similar, repeating patterns of bed thickness and color (4-12), so care should be used when placing or carving the rocks. For crystalline rocks, a more free-form approach can be used, as there are not adjacent sedimentary bedding planes to align. This is where applying still-wet rock castings is practical.

### The big picture

Viewing the continent in a very simplistic way – mountains or no mountains – is helpful. Where there are no mountains to speak of, as between the Appalachians and the Rockies, the surface rocks are usually sedimentary. You should expect to see occasional outcroppings of neatly layered rocks along streambeds and in cuts or the occa-



7-1  
Jim Six

## CHAPTER SEVEN

# Seasons – All five of 'em

Tom Johnson's Conrail-era HO layout is set in the height of autumn but still manages to avoid a circus-train riot of colors. Note the "frame" of green hues plus the mix of yellows, oranges, and browns on the maples. Moreover, most trees exhibit a variety of leaf colors. Note, too, the typical white paint on the frame building, as discussed in chapter 3.

Most model railroads depict a sunny summer day, while others bask in spectacular fall color (7-1). But modelers looking for a new challenge and a unique setting for their modeling endeavors are anchoring their railroads in the late autumn, winter, or early spring, which in New England includes the "fifth" or mud season. This is understandable, as trees and ground cover are typically among the first aspects of a model railroad's scenery to catch the eye. In fact, unless we use some discretion, spectacular scenery may prove to be too much of an attraction, and hence a distraction, much like a discordant squeak from the wind section of an orchestra.



These three photos show what a major role green plays even at the height of fall colors. The Lehigh & Hudson River scene near Roe's Orchard in New York in 1971 (top) shows the drama added with strong shadows, which can be modeled with dark foliage and black paint. The shot of Delaware & Hudson PAs on a 1973 fan trip (left) shows how a dab of color in the weeds can set the tone. Aspens along the Cumbres & Toltec in September (right) are set off by green leaves and evergreens.

7-2

### Everything in moderation

At its best, our hobby is about modeling railroading, not just building railroad models. The action, the way we use our models, is as important as the models themselves. The scenery is there to provide a setting for this action, not to upstage it.

Another caveat: No matter how good the scenery, a railroad that is eye-catching to look at but offers little in the way of realistic operation soon gathers a lot of dust. When visiting a model railroad that was not designed with realistic operation as a primary goal, too often it's apparent that the railroad hasn't turned a wheel since the last visitor stopped by. The number-

conscious engineer in me whispers that such model railroads represent an under-utilization of time, money, and talent.

That isn't to say that I haven't been very impressed with some layouts that were built primarily or even exclusively as scenic tours de force. The artist in some of us cannot, and should not, be denied. However, I still recommend approaching scenery as a setting for the action up on the high iron, not as an end in itself. One of the most important attributes of a model railroad is that, unlike even the very best museum diorama, it can actually operate as realistically as it appears.

### Planning ahead

The season we choose as a setting for our model railroads may play an important role in telling a story about what the railroad does for a living. Heavy coal traffic in the summer and fall foreshadows the winter heating season. Iron-ore boats have to get to rail connections across the Great Lakes before they freeze solid. Heavy grain traffic follows the autumn harvest. Back in the steam-to-diesel transition era, new automobiles were rushed to dealer showrooms for the traditional debuts in August and September.

Maintaining air pressure in leaking brake lines is also more difficult in the winter, so trains may be shorter or have