Layout design lessons from John Allen

by R. L. Warren

"If you are contemplating building a model railroad, John Allen's Gorre & Daphetid merits serious study."

If I had to pick the five most influential model railroaders of my lifetime (and I have been in the hobby since the 1940's) they would be: Frank Ellison, John Allen, John Armstrong, Allen McClelland, and Tony Koester (chronological order; I have no number one).

I was a member of John Allen's weekly operating group during the early 1960's. When I was going down the steps to start a Gorre &Daphetid (G&D) operating session I always felt great anticipation not unlike what I felt when I was leaving the locker room before a ball game. How was this time going to be different from all the rest?

Had John installed something new? Would I notice something that I had overlooked before? What job would I work tonight? But then John would get all the lights turned on, and once again I would be looking at the waterfall instead of the drops. I would go back to seeing the whole instead of just the tiny parts.

Once John noticed I was using my hands to make a telescope to look at a scene. He handed me a simple box with no ends, like the sliding part of matchbox. It was painted black on the inside and had cross hairs. John said he used it to compose scenes that he was photographing. Maybe it pleased him that a visitor was trying to see what he was trying to show. Anyway I often asked him if I could use the box; he never said no.

But the best part about the G&D was the way it ran. I can never remember a locomotive stalling due to an electrical problem, and derailments were rare. Leaving aside all of the pictures of the gorgeous scenery — the trains ran, and ran *well.*

Over the years, some folks have made negative comments about John and his ways. For example, John was adamant that none of us should ever rerail cars and locomotives. He told *me* why, but maybe over the years he just got tired of making the same explanations. His reason was that on the G&D, as any other model railroad, a fine layer of dust accumulated on the cars. A uniform layer of dust might not have been objectionable, but an unprototypical "giant" fingerprint in the dust understandably would be.

Since John took a lot of photos, one unnoticed fingerprint could relegate most of a shooting session to the trash can. Although John certainly realized that we needed access to the equipment in order to operate, he felt that if there were going to be fingerprints he wanted to be the culprit.

John's "no-touch" rule seemed logical to me anyway — especially after one night when I inadvertently touched the bridge that spans the canal at Port, and it *moved.* That bridge looks solid in photos, but I never went near it — or anything else after that!

Another rule was for the operating crew to wear sleeveless shirts. His theory was that you would be less likely to snag something with your shirt cuff, and that you would feel it if you accidentally touched something with your arm.

These rules seemed appropriate, and they didn't make me feel uncomfortable — quite the opposite, in fact (I spent over 30 years in the Navy — maybe lots of rules seemed more normal to me).

John started building the G&D, version 3, just before what I think of as the Golden Age of model railroading. I divide the history of our hobby into three periods: visualize a line graph with a gentle slope, a steep slope, and a gentle slope. The three parts of the graph are, respectively, the early years (1920's-1940's: modelers-as-machinists, layouts powered by

car batteries), the Golden Age (1950's-1970's: plastic equipment, Kadee couplers, imported brass engines, commercial scenery materials, transistorized electronics), and the present.

John was building a Golden Age model railroad *before* the Golden Age completely arrived. John took clunker locomotives and made them into swans. He created momentum throttles using mechanical devices. But the pictures can't show that.

Another thing happened during the Golden Age: John Armstrong started writing innovative articles on track planning, making us take a look at *real railroads.* So on the one hand we had John Armstrong writing articles about how to design model railroads that truly modeled railroading, while on the other hand John Allen was publishing photographs of a magnificent model railroad.

Then Allen McClelland came along, and made the Golden Age something really special. It sounds like the logical next step: Allen McClelland built a free-lance model railroad that looked like a model of a *real railroad.* The setting for Allen McClelland's V&O railroad was the real world Alleghenies, while John's G&D was surmounting the imaginary Akinbaks.

In creating an imaginary setting with no links to the real world, John Allen was just reflecting the concepts and attitudes of the earlier years. Frank Ellison's Delta Lines had no relationship to reality either. What Frank did was take tinplate equipment and twist it so it looked prototypical. Frank did what I think many of us do. We build a railroad, and then go back and start adding industries and scenery. John Allen put the railroad *into* the scenery.

Then there is Tony Koester's AM road. If you could count all of the words in his "Trains of Thought" columns he might be number one in terms of words written or views published. Although all of the other modelers I've named also wrote about their modeling, it's interesting to note that John Allen and Allen McClelland were more interested in presenting the visual aspects of their work, while John Armstrong and Tony Koester did more writing about railroads and concepts. While both are important (and everyone I've named wrote fine articles that included excellent photos), I rate the portion of a model railroad that rests between the ears as being just as important (if not more so) as what can be shown in the train room.

If we can pick out "design flaws" in the G&D, it's because John Allen designed the railroad before John Armstrong published his writings on layout design. We, on the other hand, are all the richer for having both of them.

If you are contemplating building a model railroad, the G&D merits serious study. Just remember the G&D *was never finished.* John Allen was working in a space that was 23x32. Allen McClelland *completed* a model railroad in a space that is 30x32.

The two layouts were quite different in design. I think John was doomed from the start, in that his plan was too complex. The G&D was a-building *for almost 20 years,* and no Golden Spike was ever driven. The V&O, on the other hand, drove its Golden Spike *a year* after construction commenced. The V&O and UP have something in common: the Golden Spike, although symbolic, does signify that the initial route is complete.

There may have been other considerations that we weren't aware of. On the G&D, a plank served for years to get the trains across the river in Port. Why not a pair of plank bridges to get to Scalp Mountain? They could have been lift-outs and removed for photos. Did John lose enthusiasm for his plan? Was he trapped by fame? It's possible that he felt forced to go on when he sensed it wasn't for the best. We just don't know.

I'd like to touch on three groups of elements of the G&D: things that in retrospect bother me; things that seem to bother others, that I didn't mind; and things I felt deserve applause.

Things I found problematic

The plan: John never deviated from his original plan. Since he didn't complete the railroad, this could be viewed as a design limitation. On the other hand, the G&D was still a very clever plan that allowed for considerable operating potential even though John never completed it. I would suggest some sort of analysis that takes into consideration construction time. Five years to complete the trackwork would be my suggestion if you thought that you would never have to move; otherwise get id done in six months.

Another design flaw is that when completed Gorre was to be the other end of the line. John liked to run long freight trains, but his desire for such long trains might have evolved after he drew the design, too. In any event, I think Gorre would have needed a *major rebuilding* in order to terminate and build the through freights John liked.

The passenger station at Divide: To my way of thinking this should have been a through station. Should there even have been a large passenger station? Could Divide have been a place like Argentine? I thought he had the right idea in the early 1960's when he called it Austin Street. Even if the railroad had been completed the passenger station would still have been in an awkward location.

Industry tracks at Port: I think that this one got away from John. He kept adding customers, but couldn't improve the ability to provide service. When I was there, one operator could handle the job, and have plenty of time to get in some train watching. Port was my favorite job. By the end John added a second throttle and another crew, and it was *still* a bottleneck.

The placenames: I had no problems with "Divide" and "Gorre". I always thought that "Port" was near the ocean. It was only when I read the Kalmbach book that I learned that Port was on a river. Why not call it "Port Yard" in "Riverside" or some such place? But if you look at the sketch map that John published in MR, March 1963, (see the beginning of this article) Port does look like it is on the seacoast, not on a river.

John Allen: Lessons

The railroad name: If you want people to think you are in a certain geographic area then it is up to you to convey that idea. What better way than the name of the railroad?

One surprising revelation, by John at the time (1962), was that he concluded that the railroad name was not right. I wonder why he never fixed it? How about Gallup & Durango (I spent about 30 seconds on that name)? Gallup & Durango preserves the emblem and initials. It conveys an image of the southwestern U.S. Since John envisioned the G&D as being in Colorado, why not seek a name that minimizes the effort associated with renaming? The nickname "Gory and Defeated" could have been retained, supporting the idea that the public frequently nicknamed railroads based on their initials.

Lack Of interchange with other railroads: It's true that western railroads tend to have fewer interchange points than their eastern brethren. However, adding appropriate interchanges would have solidified the G&D's location by tying it to a specific, if general, geographic area.

Lack of a Family Look for Locomotives: Compare a picture of a Wabash Pacific with a MoPac Pacific. They look quite different although they have all of the same basic parts. Same with NYC and PRR. Get a picture of a D&H loco, and you'll think you're looking at something from the 3rd world. But a Wabash Mikado looks more like a Wabash Pacific than any other railroads' Pacifics. Each railroad had its own "look," something I never sensed with the G&D. Headlight placement, for example, was all over the place. A G&D Pacific didn't look much like a G&D Mikado.

Open cars not discharging their loads: This problem might have gone away in later years. We delivered a loaded hopper to a customer, and then later took it (loaded) back to Divide.

Tabs on cars: I think paper is important to the "railroady" feel. A conductor has paper. Paper is prototypical. I feel good that the hobby has returned to car cards and waybills. I liked John's earlier traffic distribution system. I adopted it and have stuck with it over the years. The photo on page 27 of the March 1963 issue of MR shows part of this system, a 3x5 card cut in half lengthwise with a waybill attached. The card contained the reporting marks for a car, and the waybill identified the customer. The problem with this system is that the operators added and removed the waybills. It annoyed John when a car would show up with an inappropriate waybill, like a tank car going to the stock pen!

Track cleaning cars: John had quite a few cars with a track cleaning pad on the bottom. I thought it was a good idea at the time, but now I wonder. My current model railroad has been in business since January 1989, and I've never cleaned the track. It shares a 13x22 room with a washer and dryer. In the spring and fall I open the windows. Why did John have so much trouble with dirty track?

Some things that didn't bother me, but that others complained about

Baker couplers: They worked and worked well. I think that this is an area where our devotion to photo articles serves us poorly. The first time I visited John Armstrong's model railroad I got halfway around the room before I noticed the outside 3rd rail. In photographs that rail is like a punch in the mouth, not nearly as noticeable on the model. Same with Code 100 rail on HO layouts: it seems huge in photos, but is not that big a deal to the naked eye (at least not to *my* naked eye).

John Allen wanted reliability and gentle couplings. Shoving clear of a device bothered him. A coupler that could be easily uncoupled manually. Don't forget, Baker couplers were the best we had when he started building the G&D.

Lots of bridges: There were a lot of bridges on the G&D. But I grew up near St. Louis, Mo. The railroad bridges across the Mississippi (5), Missouri (2), and Meramac (4) were all within a short distance of downtown. Then there was the trestle along the levee, and the Illinois Terminal's elevated line into downtown. Finally, all kinds of bridges were used to get roads over tracks, or get one railroad over another.

Small locomotives: From my vantage point these had been relegated to use as photo props. John used 2-8-0s on the locals, with 2-8-2s or larger powering the through freights. John seemed to feature the smaller locomotives in his photographs, but they were rarely if ever used during an operating session. I never even saw the Dockside (I asked John about it once, and he said it was in a drawer).

The route: My view was that we were operating a railroad that ran from Divide to Port. At Divide this line either connected with another G&D main or with other railroads. So even though John never redrew the map, that's what I envisioned. And I was an operator before I saw the map depicting the route.

Walk-around control: This is one that I have thought about more than any other, and John never did think of walkaround control. It is amazing the things that John had figured out, like lighting and superelevation. John could have built a tethered throttle using a DPDT and a rheostat. I wonder if he ever pondered it?

Things I feel deserve kudos

Trackwork: John didn't have even *one* hidden turnout.

Town separation: You didn't leave a town and almost instantly arrive at the next. And there were no situations where the locomotive arrived at B before the caboose departed A.

Simplicity: If a ground throw would do the job for throwing a turnout, John used a ground throw.

People space: John provided ample room for operators.

Lighting: Although the special effects were spectacular, the biggest reason that the G&D was worth looking at was because you could see it.

Conclusion

In its time the G&D was a 25 on a scale of 10.

Here is one thought to ponder: will there ever be another model railroad that is clearly head and shoulders above the rest? Will we ever see another model railroad like the G&D? I doubt it.

John Allen's circumstances were so unique that I don't think they will ever come together again. Imagine an orphan who gets a generous inheritance during the Depression.

He invests wisely, and 11 years later retires at the age of 33 (if this happened in a novel, our first thought would be to give the author a drug test). Because he is an orphan he has little family conflict. So John started building at a time when his energy was high and his concerns were low.

In addition to all of these conditions, imagine that the orphan is trained in photography. I think training a person to be a photographer includes teaching him how to see, and how to present what he sees.

There were many factors that contributed to the fame of the G&D, and again I think it unlikely that they will all be recreated. In part MR contributed to John's fame because in the 1950's hardly anyone could take pictures like he could.

Varney hired John to promote their products; many of us looked forward to those Varney ads — I know I did. Technology now allows many more people to become capable photographers compared to the 1950's.

Bibliography

Doug Gurin loaned me his copy of Kalmbach's *Model Railroading with John Allen*. This is an excellent book. I just never had the extra 20 bucks, but plan to get a copy when I do.

I'm not poor, it is just that there is so much stuff out there to buy! Besides I have my own memories and I keep all of my John Allen magazines that have John Allen articles in a separate file. A *big* file.

If you only have a dollar or two see if you can find a copy of the March 1963 issue of MR at a swap meet. I have often wondered why MR has never reprinted this article. The planning concepts are still on target, and a reprint of this article would bring the new modelers up to speed on the G&D.

If you have several more bucks see if you can get copies of the December 1980, February 1981, April 1981, June 1981, and August 1981 issues of RMC. This series provided an in depth look at the G&D, and then there was a follow-up epilogue in the October 1981 issue.

The Kalmbach Book is the Cadillac, but the others provide plenty of information. I still reread these articles now and then.

Last Word

Having been a member of the G&D operating crew is a diamond in a treasure chest of wonderful memories.

Famous picture of John Allen at work in 1949 alongside his well-known Gorre enginehouse

John Allen: Lessons

Don Mitchell comments about the Gorre & Daphetid

Andy Sperandeo commented recently [on the LD SIG e-mail chat list] that he had not noticed the G&D ceilings when he used to operate on John Allen's layout. This intrigued me, so I hauled out my photos of the G&D to check out the ceilings first hand.

John's ceiling was unfinished over the aisles, but over the track it was surfaced with light grey or white colored sheeting. The joint between the ceiling and backdrop was not coved. Sky and cloud colors were continued from the backdrop onto the ceiling in the vicinity of the lights. (John used normal tungsten bulbs in fittings cut from tin cans for daylight lighting.)

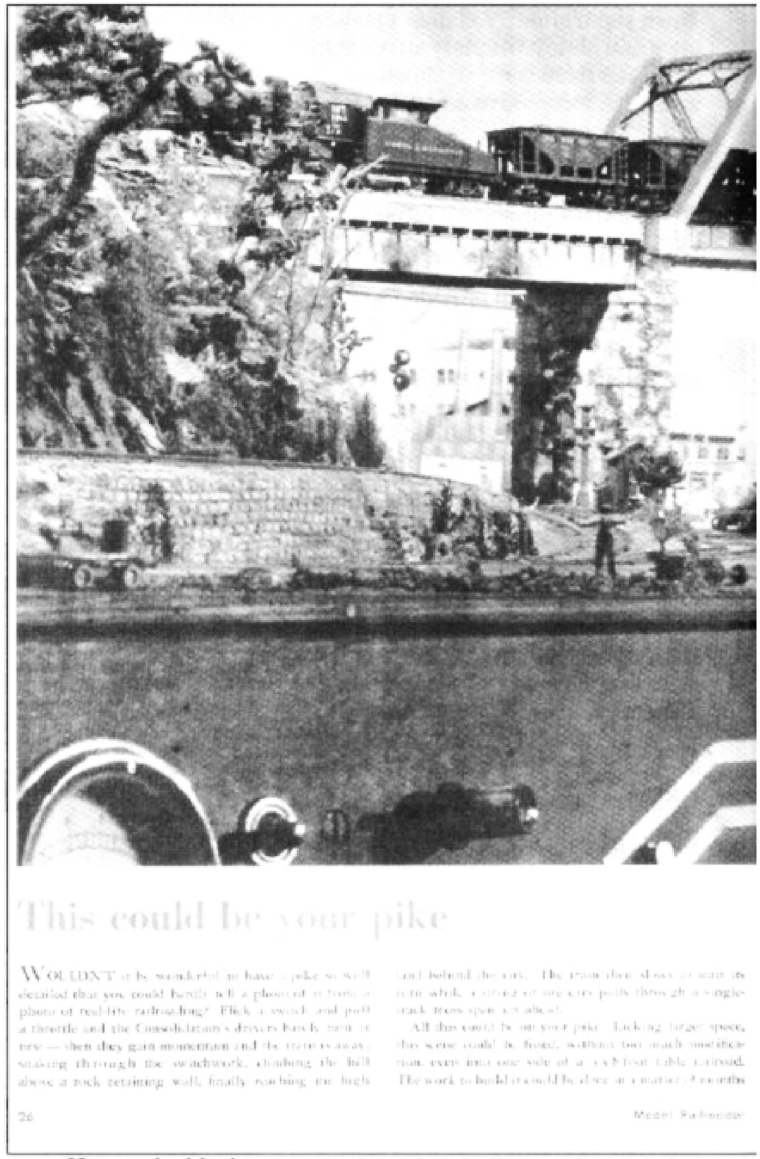
Valences shielded the lights from the aisles. The valences were made of corrugated carboard simply pinned into the ceiling, something I discovered while giving a hand signal to another operator and disloging part of a valence at the same time! John's use of pins to hold up the valence establishes that the ceiling material was some type of soft fibreboard akin to what is still used in ceiling tiles and bulletin boards.

Outside the valence and over the aisles was unfinished ceiling — crossbeams and the underside of the first floor. My recollection of this is that it was painted black; however, the photos cannot be used as proof because they don't have enough detail to show whether this area was in fact painted or just seemed dark because no light shown on them.

It always helps to examine the direct evidence, such as in photos. I hope the corrected description of the G&D overhead details will prove useful to others.

Gary Waite recalls a lighting discussion with John Allen

On one of my visits to John Allen's we talked specifically about lighting. I was trying to design my own layout lighting at the time.



John's whole ceiling was unfinished, the floor joists with their X-bracing showed, as did wiring, pipes, etc. (He ran some of the layout wiring up there, too.) This was all painted black and most people never even noticed the ceiling; after-all, we were there to see the railroad — and that is where he directed the focus.

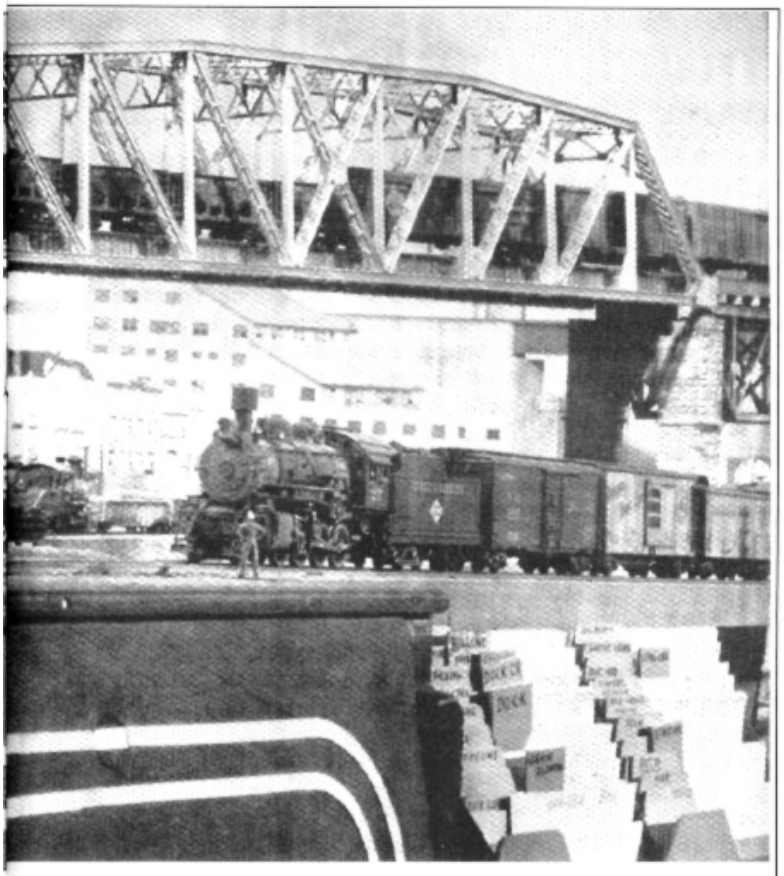
Think about the professional exhibits that you have seen: museums, interpretive centers, dioramas — all use black to focus our eyes on what they want us to see. Hence, the black ceilings and the black facias.

The specific example that John and I discussed was the long, linear Port-Great Divide area. There were two 75 watt floods for primary light. As you faced the wall one was to the right of the roundhouse the other at about the halfway point along the wall. Both pointed from right to left in order to have all of the shadows falling in the same direction.

John then had blue fill lights for: 1) reducing harsh shadows and 2) providing an atmospheric blue. These lights, relatively close to the wall, were 40 watt blue bulbs in ceramic fixtures hanging in the common straight down fashion. I think there were about four bulbs evenly spaced. The floods and the blues were just regular, off-the-shelf bulbs.

John did not allow any flash photos. He told me that was because he did not want sub-standard photos of the layout getting out. He had worked at not having multiple shadows and controlling where he wanted the shadows. For example, under the layout lighting he would paint-out the shadow of a bridge on the backdrop by using a different shade of blue in the shadow!

He used tungsten film and recommended visitors do the same. The light level was relatively low so John would loan a tripod to those without one.



The scene is on Part on John Allen's Gorre & Daphetid, which is featured on the following 10 pages. John, who took the photo, has set himself a schedule of one new locomotive per building his much larger than usual railroad. He may have more time to build than some modelers, but it isn't the quantity that counts in model railroading. That's only a small part of the fun. Quality counts too. If you're in any way like me, you can't build a big locomotive in five months, then why not build just one square foot of your pike in the same period, just to show you can?

with little more patience needed than most of us have already acquired. It would be a shame to rush the work and make it a monster by so doing. But if you get a little of the track in running order, then add a little here and there just as it pleases you, you'll soon have it made. All great model railroads are built a bit at a time. This could be your pike.

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After banquet keynote remarks by Martin Shaw (Former right of way columnist for NMRA Bulletin)

When Doug asked if I would speak about John Allen, I told him I believe that John Allen was one of the giants of model railroading, but I had reservations about his layout's track plan.

John Allen's track plan was a product of the period when it was originally designed. Layout design philosophies and techniques have changed substantially in the last thirty years. I would not generally recommend anyone planning to design a layout today spend much time studying John's track plan — with the possible exception of someone who wanted to build a layout in which the scenery was at least as important as the operation. If you also wanted to create that sense of being overwhelmed by the enormity of the miniature world that opened up to you as you entered the layout room, I would recommend you study John's track design to note how he created a long running line for operation, and placed it to maximize the scenic effect, dominating the trains.

I was not privileged to know John Allen. In that sense, my role is like an historian, searching back into the archives: the articles that John wrote for the model railroading magazines, the wonderful collection of his photographs in those same magazines, and his track plans. I've noted the influence he has had on model railroading, and layout design in particular.

To my mind, there were three giants in model railroading's history, as measured by their subsequent influence. Ours is a hobby of people with strong and independent viewpoints. To me the three most influential figures in model railroading have been Linn Wescott, John Armstrong, and John Allen.

Interestingly enough, all three have had a major impact on layout design. That suggests to me layout design may be the critical discipline in model railroading — all model railroading progress is fundamentally tied to our evolving concepts of layout design. I can also make the opposite case: advancements in layout design are fundamentally tied to the technical and conceptual progress within model railroading. The latter is a very logical conclusion. It is nevertheless, curious (and probably more than coincidental) that these three outstanding individuals were deeply involved in layout design.

I would like to digress for a moment and talk about the contributions of Linn Wescott and John Armstrong — and then come back to discussing John Allen's contribution to layout design.

Linn Wescott was a major figure in model railroading. Early on, he determined technical and other limitations were holding the hobby back from more widespread popularity — and he used his position as Editor of Model Railroader to "push the button" in those areas and create progress. Although Linn was a track planner (and an early promoter of prototype based layouts), it wasn't his track plans that were his most significant contribution to layout design — it was his work on control systems. Linn took a personal lead in continuously developing and improving existing control systems — cab control for instance, and the many throttles he developed. We can see his influence in the walk-around controls we use today, and in such current innovations as command and radio control systems.

John Armstrong's influence is very clear. He has had the most profound influence on track design of anyone in model railroading's history. I remember when his first book on track design principles was published — and after reading his book, individuals who had been doing track designs for years, went back to their drawing boards to relearn their craft.

It's hard to put John Allen's influence on layout planning in a few words. What we instantly think of when John

John Allen: Lessons

Allen is mentioned, is scenery — but it is much more. It was also realism. Not realism merely in the sense of accurately modeling equipment so that the rivet count was correct — or of matching the equipment to the appropriate time period. It was a broader sense of scenic realism — for instance the various ways in which he made scenes appear to be larger than they actually were: floor to ceiling scenery; reduced scale structures in diorama like settings — placed against distant walls — to make them seem even further away than they were; his use of mirrors to increase the apparent size of the scene.

John built miniature depictions of more than a model railroad. He built a miniature world for the railroad to run in and he did it far better than any predecessor. The way he created the "atmosphere" — that instant sense of time and place we normally call the "ambiance" is his enormous contribution to the hobby.

In explaining how important that was, I would like to use a helpful allegory. Some years ago I read comments by a music critic on the influence of Charlie Parker, the founder of modern jazz, who had died 20 years earlier. The critic pointed out Parker's influence had been so profound you could hear it in most modern orchestral, symphonic, commercial, movie, and TV music. It had become so much a part of the musical background few people were aware of how completely Parker had changed the music that came after him.

We are all aware of John's accomplishments, but we've become so used to seeing fully scenicked, frequently museum-quality layouts (like Gary Siegel's L&N, for example) that we've forgotten impressive scenery wasn't common before John Allen.

For many years before, and even for some years after John Allen came on the scene, many modelers would build enough of a layout to permit running their trains, place some structures on it, and basically leave it otherwise unscenicked. After John built his final version of the Gorre and Daphetid, *unscenicked* model railroads became essentially *sub-standard* model railroads.

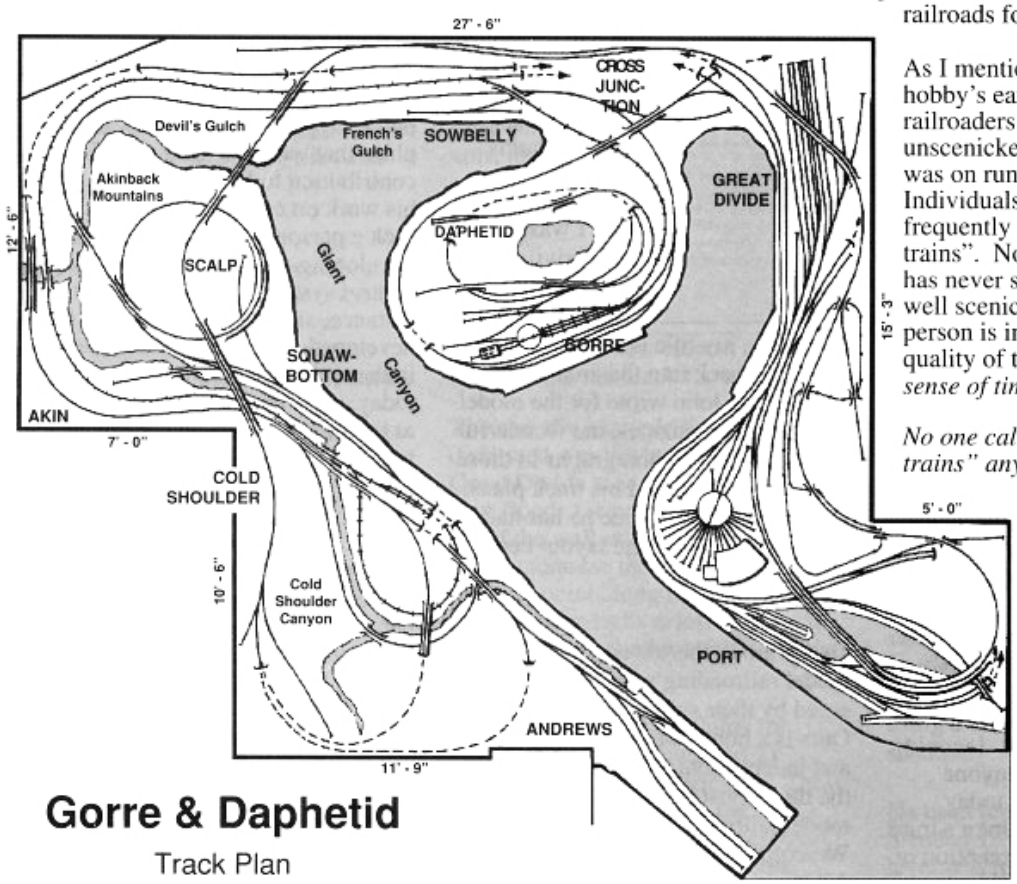
Additionally, if you look at the ads in the model railroading magazines in the '40s and '50s, the photos of structures and equipment rarely included a backdrop, or miniature figures, or any scenery. John Allen changed all of that. A major impetus was the excellent photos he took for the Varney ads — photos of Varney equipment on the G&D.

Nowadays, it is normal to see ads for structures and equipment depicted in fully scenicked settings. Just think, for example, of the Quincy structures from Campbell; the current varied industry scenes from Walthers — or any craftsman type structure kit offered in the magazines — often displayed in scenicked diorama-type settings.

That is John's influence — so complete we take fully scenicked model railroads for granted now.

As I mentioned previously, in the hobby's earlier years, model railroaders often built relatively unscenicked layouts. Their focus was on running their equipment. Individuals outside the hobby frequently called it "playing with trains". Nowadays, if someone who has never seen a real layout visits a well scenicked model railroad, that person is instantly struck by the quality of the miniature world — *a sense of time and place.*

No one calls it "playing with trains" any more! John Allen's achievement in model railroading — the effect of his focus on scenic realism on the appearance of the layout — has legitimized the hobby and gained us all public respect for our efforts. That is John Allen's major accomplishment — his legacy to the hobby — and to all of us as layout designers.



Gorre & Daphetid

Track Plan