OLD MYTHS NEVER DIE

Kirkpatrick MacMillan and the invention of the bicycle

Recently, I was asked to review a short biography of Kirkpatrick MacMillan by David Hurdle, a distant relative of the man. Although he acknowledges (in a funerial black border) that ‘many aspects of the story of the invention of the bicycle are subject to controversy’, he neatly sidesteps saying that the MacMillan story is one of them; following with ‘but what follows is a fairly popular interpretation based on …James Johnston… Gordon Irving… Andrew Ritchie. It’s an interesting list of authors, only the last of whom could be said to have serious credibility in the world of cycling history. Hurdle’s book is another small brick in the wall of myth making that assures the future of the MacMillan story.

It’s a long time since the First International Cycling History Conference in Glasgow in 1990, in which I first, fairly inadvertently, upset assumptions about the historical accuracy of the MacMillan story. At that time, I did not discredit it entirely, but merely pointed out that none of it bore up to serious scrutiny and the sole piece of contemporary evidence was the famous paragraph repeated in three papers in 1842, which did not describe the machine MacMillan was supposed to have been riding. Nothing was there to prove MacMillan was active as a velocipedist before this time, indeed the paragraph did not mention MacMillan by name, and that dates of 1839 or 1840 (commonly cited as fact) were supported by no evidence whatsoever.

Since that time my views have hardened. Were you to ask me what I thought of MacMillan in 1990, I’d have said ‘unimportant, even if he did invent a pedamotove bicycle’. Now, I’d say ‘he never invented any kind of bicycle, but the claim that he did has taken on great significance’. To some extent my current position was fueled by many conversations with Andrew Ritchie when he was writing *The Origins of the Bicycle* in 2007 and 2008, as no matter how hard he tried, he just could not find any more evidence from the time the machine was supposed to date from, and indeed nothing from the 1850s or 1860s. What there was remained the one paragraph reporting a fine of five shillings for mounting the pavement on a velocipede and throwing down a child.

In recent years MacMillan has moved from relative obscurity into the limelight with the rise of cycling activity in the UK. His story has become a part of selling the South West of Scotland to cyclists, with ‘MacMillan’ cycle routes and events. It is interesting to see how MacMillan seems not only to have moved into the limelight but stolen it from Gavin Dalzell and Thomas McCall (both significant in the MacMillan story). Neither now seem to feature, although the latter is the only one where there is serious contemporary evidence to prove that his ‘Improved Kilmarnock Velocipede’ of 1870-71 really did exist. So, with Hurdle’s little book and waves of MacMillan drifting about cycling publicity in Dumfries and Galloway, I think it is time for some evidence from the prosecution to try and redress the balance.

A mistake that is generally made by MacMillan myth-busters is to start with MacMillan. But, to understand exactly why the MacMillan story emerges in the way it does, one needs to start with the Dalzell machine, the successor to which can be seen in the Riverside Museum in Glasgow. This machine was claimed to have been built by Gavin Dalzell of Lesmahago in Ayrshire in 1845. It was first displayed at the Stanley Show of 1887. We need to remember that the Stanley Show was a British trade fair, the audience were far from antiquarians and had no reason to be adversely critical of the machine that came from the UK and purported to date from 1845. That it seemed to pre-empt any driven bicycle by some fifteen years certainly made it a curiosity, but it looked ancient, and that was enough. We can see exactly how it was received in *Cycling* and the *Scottish Cyclist*.

Once validated in the cycling community it is no surprise to find it exhibited in the Bishop’s Palace, the part of the 1888 Glasgow International Exhibition devoted to Scottish antiquarianism. The machine’s rise from ‘unknown’ to ‘the first bicycle’ had taken place in a period not much longer than a year. Its authenticity rested on its decayed condition (wood-wormed) and no more than verbal reminiscence from the son (or possibly nephew) of its builder.

Unfortunately, today it is impossible to scrutinise the actual machine exhibited in the 1880s, as it was entirely rebuilt in the late 19th century, with considerable improvements to its structure. Indeed, it is doubtful if any part of its woodwork, except its wheels, predates the rebuild. So, the historian first has to ignore this seemingly important piece of evidence and instead study the drawings and photograph of the machine when it was first exhibited. Here, all the essential elements are present, as can be seen on the rebuilt example, save for one, the awkward and seriously structurally problematic joint between the front end of the machine and the back. Unlike the machine displayed in the Riverside Museum, the machine of the 1880s has the appearance of a mating of two distinct elements, a single rear driving wheel with cranks and frame, and a front steering wheel with forks, handlebars, and backbone.

The rear end complies exactly with the layout of what we now call ‘The Edinburgh Tricycle’. The Edinburgh Tricycle was built and advertised by a Matthew Brown in Edinburgh in the 1860s. When a photograph of this machine was first found, it was assumed to show MacMillan on a tricycle version of his bicycle. While the picture has been found not to show MacMillan and is some two decades later, the layout of the machine itself certainly complies with the few fragments of evidence we have. A machine ridden in semi-recumbent position, with a single large rear wheel, driven by long connecting rods to foot paddles in front, along with two front steering wheels on a cross beam guided by ropes from large hand levers mounted each side of the frame’s main beam, between the rider’s legs.

The front end of the Dalzell machine has no real precedent, except in Johnson’s lady’s hobby-horse of 1819. Otherwise, makers building hobby horses tended to think in terms of a wooden beam from which was hung the wheels. Then, during the late 1860s after the application of pedal drive and iron frames they moved to the concept of a diagonal beam from steering head to back axle. Would not Dalzell have thought the same way? Any competent woodworker would see an inherent weakness in that bottom joint, while Dalzell did not require to accommodate floor length skirts; so, there was no need for such an open frame. I would suggest the front was either made to graft on to an existent rear end, or was salvaged from some other velocipede, but did not belong to it. What we have in the 1880s Dalzell machine is the rear of a tricycle turned into a bicycle.

When was that done? Without evidence to the contrary, the most likely time is about 1870, when the front driven velocipede bicycle had become well known. The alternative is that it is much later, created as a hoax in about 1887. As the general condition seems to have been well wormed, I tend to give it the benefit of the doubt and think the machine was created as a genuine response to French style velocipede bicycles in the late 1860s out of pre-existent components of an Edinburgh type tricycle that dated back to about 1845. It was then ‘discovered’ in the 1880s, with its transformation from tricycle to bicycle forgotten. This would give the machine as a bicycle enough age to fit with the earliest references Andrew Ritchie found to it, from the early 1880s.

Once the Dalzell machine was established as a bicycle, it began to move from curiosity into national icon as the world’s first bicycle; not only preceding the French front-driven velocipede bicycle by twenty years, but also being designed along the same principles as the very latest rear-driven safety bicycles of the late 1880s. Although there was nothing to connect either with the Dalzell machine, this did not matter at a period where priority was seen to be king in historical narrative. Any history of the bicycle would have to step from the hobby-horse to Dalzell and then on to the front driven machines of the 1860s.

It only took a year or so after the Dalzell machine had been put up before the public and accepted to be a bicycle dating from 1845 for memories of MacMillan emerge. This encouraged James Johnson to set out to prove that Dalzell had copied his machine from one ridden by MacMillan some five years earlier. That part of the story was almost certainly true, but where it went wrong was in equally claiming the MacMillan machine was a bicycle, when, like Dalzell’s, it was a tricycle. It was on the assumption that the machine had been a bicycle that James Johnson went on his mission. Establishing MacMillan’s precedence was comparatively easy. Though there had been a lapse of some thirty-five or forty years between MacMillan riding the machine and Johnson’s research, there were enough older residents of the area round Courthill to clearly remember MacMillan riding his machine. That it was a bicycle was generally accepted, but then it is unlikely that Johnson made any effort to suggest otherwise; after all, he was convinced it had been one. The essential elements his respondents remembered were its speed and novelty, not the number of wheels it had. In the Dumfries-shire of c1840 there would be precious few velocipedes on the road; MacMillan’s style of rear drive machine would have been remarkably quick, the man himself was well over six foot and strong, able to drive it at pace.

Here, we do not need to dwell on the many reminiscences collected by Johnson, beyond noting that not one of those who remembered the machine thought fit to record it in any way. One might imagine that had it really been a bicycle it would have gained the attention of someone who would have; after all, it would have had novelty well beyond just having a particularly effective drive and layout which it did as a tricycle.

We then come to the famous paragraph relating to the fine in the Gorbals. The first thing is to assure ourselves that it is actually about MacMillan, not some other ‘gentleman’. There seems little doubt of this as Johnson’s researches certainly demonstrated that MacMillan was very active as a velocipedist, seen by many and known to travel considerable distance. Johnson’s earliest ‘evidence’ (remembering it was entirely oral and reminiscent) claimed to have seen MacMillan riding his machine in 1839. There is no reason why we should doubt this, he was established as a blacksmith and some 27 years old, just the right sort of age and trade to be making velocipedes. The fact he was so memorable reminds us there were very few velocipedes on the roads of the time and, for the ‘gentleman’ to have ridden from ‘Dumfries’, seems too much of a coincidence for the ‘gentleman’ not to be MacMillan. The paragraph dates from June 1842 and we assume that MacMillan continued to ride his machine well after that time. Once again, one has to wonder, if he was riding a bicycle, just how was it that no one noticed in all those years?

Let us now study the paragraph in detail:

The first thing to note is that it is written after the fine had been issued. So, unless the writer was lucky enough to have been present at the incident, then gone on to attend the trial, the likelihood is that this was written by someone who merely attended the Gorbals Police Bar hoping for interesting news stories and did not see the actual incident. Moreover, as no records of cases brought before the Gorbals Police Bar in the 1840s survive, we have no idea how long there was between the incident and the trial, or if ‘the gentleman’ attended with the machine. If both rider and machine were present then there is a high chance the writer based the description on seeing the machine; however, it is equally likely that the paragraph was written from what was said at the Bar, or was told to the writer by witnesses.

Analysing it, what is important is the emphasis. The report is most concerned with the incident and the resultant fine. It goes on to note the length of run, and a good average speed of 8mph (presumably calculated by ‘the gentleman’ on the hours spent riding it over a known distance, therefore its accuracy is very doubtful). The nature of the machine itself comes last of all and it is clear there is nothing truly remarkable about it, beyond its drive mechanism. Were the machine two wheeled andhave *any* drive mechanism, the fact of it being two wheeled would have caught the attention of anyone seeing it, as this would have been truly remarkable. With three or more wheels it would be a ‘normal’ velocipede and no one would think to mention their number; indeed, the writer did not. Moreover, the drive is described as it ‘seemed to be driven by the hands by means of a crank’. No matter how one interprets this, it does not describe what we understand to be the ‘MacMillan bicycle’. If it is taken literally, it could well describe a manumotive tricycle or four-wheeler, but then there is that weasel word ‘seemed’, as if the writer was uncertain. Given the layout of the single rear-driven tricycle, the large hand levers operating the steering would easily ‘seem’ to be part of the drive, with the foot paddles offering extra assistance. What is certainly worth noting about the paragraph is that not only does the writer not mention the machine being two-wheeled, but also does not mention the novelty of the foot drive to the rear wheel either. These are both the defining features of the ‘MacMillan bicycle’ and surely both would have been really obvious to witnesses had the machine really looked like one?

We then jump some 28 years to Thomas McCall and his ‘Improved Kilmarnock Velocipede’ of 1870. This machine is designed and made late in the history of the front-wheel drive velocipede bicycle’s brief currency from c1866 to the first years of the 1870s and, given it is from 1870, a year after the style of machine was widely introduced into the UK where it enjoyed a very enthusiastic reception, must surely have been built in response to it? McCall was still alive when Johnston was doing his evidence gathering and told him that his machine had been based on one he had seen as a youth and had run after in the road, belonging to Kirkpatrick MacMillan. And well he might have. Following MacMillan on his tricycle, he’d have clocked the drive mechamism, the large rear wheel and its effectiveness. It did not need to have been a bicycle, indeed circumstance would suggest it was not, as McCall needed to first see front wheel drive velocipede bicycles to realise how to ‘improve’ them by applying the drive mechanism and large wheel he remembered from seeing MacMillan’s tricycle.

McCall’s machine is of particular significance in that it became the MacMillan bicycle. Having said he copied MacMillan’s machine, it was assumed that the MacMillan machine was identical in every way to McCall’s Improved Kilmarnock Velocipede, something that McCall was seemingly happy to support, in fact he built new machines to his 1871 specification to fill the demand for MacMillan bicycles. As a result, every ‘MacMillan reproduction’ is in fact a reproduction of an 1890s McCall reproduction of his own machine from 1871.

So, there we have it, the story is fairly simple and, best of all, logical, with no remarkable yet unnoticed inventions along the way. MacMillan builds a novel, rear-driven pedamotive tricycle. It is copied by Gavin Dalzell (and quite possibly others). His machine is seen by Thomas McCall who memorises its drive. In 1869-70 McCall sees the possibility of applying the tricycle drive to a velocipede bicycle. Meanwhile, somebody else also sees the possibility of converting Dalzell’s machine to a bicycle, reflecting the latest in road vehicle technology. Years later, Dalzell’s machine is found and it is assumed to have been a bicycle for all its life. Thereafter, the ‘bicycle’ part of the machine takes over and confuses cycling history for evermore.

Let us now look more deeply at the secondary literature dealing with MacMillan’s bicycle. The first thing to note is the paucity of actual evidence is made up for by imagined evidence.

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While Johnson was collating oral accounts of memories some forty years old, this at least can claim to be some sort of actual evidence. The next writer to give an account of MacMillan’s bicycle was working half a century later. Gordon Irving was a broadcaster and writer with an interest in theatre history. Like Johnston, he hailed from Dumfries-shire. His booklet *The Devil on Wheels* was published in 1946, seemingly Irving had been inspired to make something of the MacMillan story after the ‘centenary’ memorial events of 1939. He returned to Johnson’s evidence, but romanticised it by developing it by turning it into a narrative with seeming citations of conversations from MacMillan’s time which were entirely of his own making. It is here that we find the Magistrate’s words from the Gorbals Police Bar, along with many other entirely fictitious quotations. Irving went further still, claiming that there were archival papers relating to MacMillan’s invention of the machine in Dumfries Museum. Other historians, including myself, have followed this claim up not only to find that these papers are no longer at the museum, but, in fact, they were never in the museum in the first place. Irving’s booklet became the default ‘account’ of the MacMillan story until the First International Cycling History Conference of 1990. That it remains in this position is reflected in Hurdle’s use of it in his recent biography. The fact that such a source, complete with bogus references, remains a go-to for MacMillan historians, says a lot about MacMillan historians and indeed the history itself. But, it does not alter the fact that whatever Irving said, the only contemporary evidence from the time of MacMillan available to him was the newspaper paragraph from 1842.

We now move on to the next serious contribution to the MacMillan story. Alastair Dodds’ *Scottish Bicycles and Tricycles* was published after the 1990 conference, at a time when skepticism of the MacMillan story had started to increase. Dodds proposed a ‘school’ of velocipede makers in Dumfries and Galloway, where each learned from each other and was favourable to the idea that a bicycle had been invented within it. The problem, only two velocipedes, seemingly of similar design, seem to have been made (or at least that can be accounted for; hardly a ‘school’ even if one informed the other. Again, he could not find any contemporary evidence beyond the famous paragraph, but did establish that MacMillan had been employed in Glasgow near the time of the incident in the Gorbals, therefore made it even more likely that he was the ‘gentleman’ mentioned therein.

Finally, we have Andrew Ritchie. Ritchie’s *King of the Road* (1973) was notable in its use of primary sources to plot the history of cycling and set an example for later writers. In 1973 he had no reason to doubt the MacMillan story. But, in the early 2000s, in the face of increasing doubts of its believability, he entered the fray. Ritchie’s position was that the very varied reminiscences published by Johnson had credibility just because of their quantity. These he hoped to support by documenting any other evidence, effectively producing a compendium of all known credible references to MacMillan and Dalzell. The end product is substantial, but all it does is reconfirm what we knew already, that there is no reference to any bicycle of the ‘MacMillan’ type until Thomas McCall advertises his ‘Improved Kilmarnock Velocipede’ in 1870. He did manage to find references to the Dalzell machine that pre-dated 1885 and the rise if the rear-driven safety bicycle, which is useful as this suggest the machine was already in bicycle form by then; so, was not a consciously constructed hoax made in response to the rear driven safety, but merely a misinterpretation. Ritchie, like all the others, could not add to the 1842 paragraph, and, whatever way one interprets that, it does not describe a bicycle, let alone the one ostensibly designed by Kirkpatrick MacMillan.

In the end, the weight of what little evidence there is comes down on the side of MacMillan having never built a rear driven velocipede bicycle, but instead having built a rear driven velocipede tricycle of somewhat similar format to Matthew Brown’s, as this entirely fits the only contemporary written account, not muddied by reminiscence. To me it is made stronger by the fact that to prove the MacMillan machine was a bicycle, its proponents have seen fit to fabricate evidence, referencing documents that do not exist and events for which there are no records. For all the sterling work put in by Andrew Ritchie to assemble the evidence, he fails to find anything that proves Dalzell’s machine was a bicycle before the 1880s, nor anything that overturns or contradicts the description in the 1842 paragraph.