

Modernism on the Line

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ABSTRACT: The invitation to this symposium refers to "the baby boom, which "boosted the market for children's toys."" This paper explores the extent to which the toys of that era in New Zealand could be seen to have actively promoted and encouraged Modernist architecture. The particular focus will be on toy trains and model railways and how their manufacturers, both off-shore and local, produced model railway buildings that were decidedly Modern in form and quite unlike the largely nineteenth-century buildings seen by the majority of travellers on New Zealand Railways. This paper argues that 1950s New Zealand was an outpost of non-Modernism when it comes to railway buildings, both full size and toys. By tracing the history of model railways and how they engaged with Modern design it posits that the only OO scale model railway buildings that were mass produced in New Zealand were traditional in form, although made of plastic, the quintessentially modern material.

Railway station architecture

The first public railway in the world, the Stockton and Darlington Railway in northern England, opened in 1825, with a 26 mile long track. By 1850 there were 6,621 miles of track and by 1860 over 10,000 miles.¹ By 1950 the UK railway network was 31,336 km in length.² In New Zealand the total length of railway track reached its maximum of 5,689 kilometres in 1953. Branch-line closures, which began in the late 1950s, reduced the network to 3,898 kilometres in the early 2000s.³ In fact New Zealand still has far more railway track per head of population, at 0.9 metres per person, than the UK, which has only a third of that

value.⁴ In the 1950s when the track was at its maximum length New Zealand had more than 1,350 railway stations, roughly one per 1,500 people. These were places where passengers could board trains, even if many of them were no more than open sheds to provide shelter on a platform. Today fewer than 100 railway stations remain, and only about 40 stations remain on their original sites.⁵

⁴ NZ population in 1953 was 2,074,700 ("1953 in New Zealand" np). UK in 1951 was around 50 million (Jefferies *Focus on: People and Migration* p 6). So in the 1950s NZ had roughly 2.7 metres of railway track per person while the UK had only 0.6 metres. The estimated resident population of New Zealand was 4,362,000 at 31 March 2010 (Statistics New Zealand "National Population Estimates" np) while that for the UK, it was 62.3 million (Office for National Statistics "National Population Projections" np) So even now New Zealand has 0.9 metres of track per person while the UK has only a third of that, at 0.3 metres.

⁵ "Railway Stations" *NZ History* np.

The stations on New Zealand Railways, like their counterparts on British Railways (nationalised in 1948 and supposedly re-privatised in 1993 although the railway infrastructure still receives large levels of government funding⁶) were almost all traditional in appearance.⁷ The railways in general were not great patrons of Modern Movement design, partly because most of their infrastructure had already been built in the preceding hundred years. A notable exception in the UK was the Southern Railway; all the stations on the last line it constructed in 1939, the Chessington branch, were in the Modernist style.⁸ The precedent for this approach was the much larger station at the London suburb of Surbiton (1937),

⁶ Bowman "An illusion of success: the consequences of British rail privatisation" pp 51-63.

⁷ Mahoney *Down at the Station*

⁸ "Chessington Branch Line" np.

¹ Bloy "Railway expansion" np.

² "the rail network has halved from 19,471 mi (31,336 km) in 1950 to 10,014 mi (16,116 km) today" "Transport in the United Kingdom" np.

³ "Railways" np.

which was designed by the Southern Railway's Architects' Department under JR Scott to replace an existing station. Surbiton Station is a large building of white painted reinforced concrete, with flat roof and a clock tower, and contains a booking office as well as kiosks and shops.⁹ Parissien,¹⁰ in his study of world railway stations, cites three large buildings that stand out as representing the application of Modernism to railway station design in the 1930s – Le Havre Ville by Henri Pacon (1930-33), Santa Maria Novella by Giovanni Michelucci (1932-33) and Amsterdam Amstel by HJ Schelling (1939-40). Surbiton's design may well have been influenced by Pacon's work at le Havre as the Southern's architects would probably have been aware of this building given that the Southern Railway operated the English side of the "Golden Arrow" express train and steamer service from London to Paris. Modernism as a style may have been adopted as it was seen as a physical embodiment of the modernisation process when the entire Southern Railway suburban system and some of its mainlines were changed from steam to electric traction in the 1930s, but, as Parissien concludes,

⁹ Surbiton Station is on the National Monuments Record of English Heritage. "Images of England" np.

¹⁰ Parissien. *Station to Station* p 201.

Whether ... this brave Modernism actually made this type of station any more efficient or pleasant to use than those of the 1840s ... is another matter.¹¹

Britain's private railway companies were formed into four large companies in an act of semi-nationalisation in 1923. These were the Southern Railway (SR), the London, Midland and Scottish Railway (LMS); the Great Western Railway (GWR) and the London and North Eastern Railway (LNER).¹² Apart from the Southern the three other UK railway companies either ignored Modernism, or did not have a building programme that allowed them to exploit this approach because all their stations were already in existence. The only other example of a Modern railway building of any size was the LMS company's Midland Hotel (1933) in Morecambe, designed by Oliver Hill. This was an elegant white three-storey curved building, opposite the railway station, right on the seafront. It had murals by Eric Ravilious and Eric Gill, who also provided some sculpture, and textiles by Marion Dorn.¹³ The most famous patron of Modern railway architecture between the two world wars was the Underground Electric

¹¹ Parissien *Station to Station* p 203.

¹²Anon. "Names of the four grouped companies" p 641.

¹³"Lancashire" np.

Railways Company of London, which became part of the London Passenger Transport Board in 1933. Its chief executive officer Frank Pick (1878-1941) was a founder member of the Design and Industries Association (DIA), along with the architect Charles Holden (1875-1960). Pick is quoted as saying in 1925:

we are going to build our stations ... to the most modern pattern ... We are going to represent the DIA gone mad, and in order that I may go mad in good company I have got Holden to see that we do it properly.¹⁴

The increasingly austere modern buildings which Pick commissioned from Holden starting in 1925, have been described as "some of the finest English architecture ... of this century,"¹⁵ and certainly count as railway architecture, even if they were for the Underground.

New Zealand followed a very similar pattern of railway development. The only station that could be described as roughly comparable to Le Havre or Surbiton is that of Christchurch which was designed around the same time, between 1936 and 1938, by Gray Young, Morton & Calder, but not built and opened

¹⁴ Barman *The Man who built London Transport* p 118.

¹⁵ Karol & Allibone *Charles Holden Architect 1875-1960* p 25.

until 1960.¹⁶ Wellington had a Modern style signal box (the building from where the signals and points for changing tracks were controlled) to go with its new, but non-Modern, station, with the Wellington "A" signal box opened on 19th May 1937 along with the new Railway Station.¹⁷ The Petone signal box was also in the Modern style, designed in 1948, opened in 1952 and closed at the end of 2013.¹⁸ The Wellington area did quite well for Modern style railway buildings, apart from the signal boxes, as the Hutt Valley track realignment in 1954 required the construction of a new station at Melling, which became the end of the 3 km long Melling branch line. This station was opened in March 1954.¹⁹ Like the signal boxes it is a simple Modern style building with a flat roof, very unlike the majority of small stations in New Zealand.

Model Railway Modernism

Very soon after the railways first appeared in 1825 there were toy trains, which initially were either pushed along the floor or ran

across it powered by clockwork or steam.²⁰ However, a coherent approach to model railways came when the German firm of Märklin demonstrated their first complete clockwork railway system in 1891.²¹ Originally Märklin had manufactured metal kitchen utensils, and their first toys were miniature versions of these for dolls' houses.²² They quickly realised this was an excellent way of creating continuing sales, as once a child had a dolls' house it could then be added to with additional furniture and fittings *ad infinitum*. With toy railways they followed the same path, making not only locomotives, but carriages, goods wagons, rails, points, crossings, turntables, signals and, of course, stations. In both cases they created the idea of a system of parts, so that having bought the initial dolls' house or train set, you could carry on adding to it to make a larger and larger system, with parts that fitted together to work as a whole. As part of this total railway system there had to be stations and by the early 1900s many German manufacturers (Germany being the centre of the world's toy industry at this time) offered a magnificent

range of stations and accessories for them (including lamps, bells, ticket machines, cattle pens and telegraphs) for both the wealthy buyer and for the (relatively) poor.²³

By the 1950s model trains were a popular toy and hobby all over the world. The situation was the same in New Zealand; "After the war trains were still near the top of most boys' wish lists."²⁴ Which makes of model trains were popular in the 1950s is not easy to judge, but a random search on TradeMe (21 October, 2015) under the heading "Toys and Models - Models - Railway" revealed, for companies that offered models in the 1950s, 40 entries for Tri-ang, 117 for Hornby Dublo and 150 for Märklin. The figures are complicated by the fact that the latter company is still in existence while the others stopped production in the 1960s so not all the entries for Märklin are old models. Intensive research on TradeMe over a period of several years supports the view that these three makes were popular in New Zealand in the 1950s, along with Trix Twin. Research also suggests that model railways are still a popular hobby. On TradeMe (the morning of 26 October, 2015), the category

¹⁶ Mahoney *Down at the Station* p 165; Rail Heritage Trust of New Zealand "Christchurch Station" np.

¹⁷ Adlington "Wellington 'A' Signal Box" np.

¹⁸ Anon. "Petone Signal Box" np.

¹⁹ Anon. "Melling Branch" np.

²⁰ Carlson *Toy Trains: a History*

²¹"140 Years of Märklin" np.

²²Western Division, The Train Collectors Association "Märklin Trains" np.

²³ Carlson *Toy Trains: a History* pp 75-79.

²⁴ Veart *Hello Girls and Boys! A New Zealand Toy Story Auckland* p 127.

"Models" was the second largest sub-sector of "Toys and Models" with 8108 entries ("Die casts" was the top sub-sector of "Toys and Models" with 9324 entries). Within the seven sub-categories of "Models", "Railway" has the most entries, 3085, nearly double the next highest category "Aircraft" (1737 entries).

Initially the model train manufacturers made stations that represented what the travelling public might see when they boarded a train. The companies which were early on the scene, such as Märklin, Hornby, Lionel, American Flyer,²⁵ and their competitors, reflected the Victorian nature of the railway and its architecture in lithographed tinplate. The German model railway pioneer Märklin was the first large manufacturer to attempt to model a real prototype when they made a model of the new Stuttgart station, which appears in the Märklin catalogue for 1930 in two sizes to suit Gauge 1 and Gauge O model trains.²⁶ The Gauge 1 model is a massive 1140mm long and 450mm high in this gauge's

²⁵ See, for example, the 1931 Lionel and American Flyer ranges in Supplee-Biddle *1931 Toy Catalog from Philadelphia's Wholesale Toy Headquarters* pp IC 1 – 6.

²⁶ Ronneburg "(Zu) Großer Bahnhof - der "Stuttgarter" für Spur 00" np.

roughly 1:30 scale.²⁷ The prototype was also a substantial building which opened in 1922 having been designed by the architects Paul Bonatz und Friedrich E Scholer following their competition win in 1912.²⁸ It could not be described architecturally as a Modern building in spite of its concrete structure and the website devoted to its preservation (much of it has now been demolished as part of a railway modernisation programme) describes it as an example of traditional building.²⁹

In 1908, shortly before winning the competition for the Stuttgart station, the architects Bonatz and Scholer began building "Zeppelin Dorf" in Friedrichshafen on Lake Constance to house the workers of the eponymous airship company in houses with large gardens to encourage self-sufficiency and the keeping of small livestock.³⁰ Subsequently Märklin unequivocally promoted the Modern with their model of the new harbour station at Friedrichshafen. The

²⁷ Märklin *Metallspielwaren - Metallbaukasten* 1930 p 20.

²⁸ Bonngartz *Der Stuttgarter Hauptbahnhof - ein Meisterwerk der Architektur - Geschichte*

²⁹ Bonngartz *Der Stuttgarter Hauptbahnhof - ein Meisterwerk der Architektur - Geschichte* p 7.

³⁰ Friedrichshafen *Zeppelin Dorf der Zeppelin-Wohlfahrt GmbH*

architect for this was Erich Hagenmeyer, who had directed the construction of the superstructure of the Stuttgart station as a senior architect in the Reichsbahndirektion, Stuttgart.³¹ The Friedrichshafen harbour station (Hafenbahnhof), which opened on 7 March, 1933³² was described in a review of railway stations at the end of 1935 in the German Construction Management magazine *Deutsche Bauleitung* as "[o]ne of the most beautiful railway stations in the whole of Germany" (author's translation).³³ A map of the area covered by the Reichsbahndirektion Stuttgart shows that Friedrichshafen was the southern limit of its area of operation.³⁴ This suggests that Märklin, whose factory was (and still is) at Göppingen, to the east of Stuttgart, had good connections with the Reichsbahndirektion Stuttgart, or at least with Reichsbahnoberrat Hagenmeyer. Perhaps he was a model railway enthusiast? Certainly, Märklin were up-to-date, offering a model of

³¹ Thiel H-C *Persönlichkeiten des Eisenbahnwesens, der Bahntechnik und der Bahnbaukunst - Ingenieure, Architekten, Baumeister - Bauingenieurwesen und Stadtplanung*

³² Meighörner "70 Jahre wechselvolle Geschichte: Der Hafenbahnhof feiert Geburtstag"

³³ Gut "Empfangsgebäude der Deutschen Reichsbahn Zur Hundertjahrfeier der Eisenbahn" *Deutsche Bauleitung* pp 1045 and 1048.

³⁴ [map] np.

the Friedrichshafen station in O gauge (roughly 1:45 scale) in their catalogue for 1933,³⁵ the same year that the real station opened. This was also the year that the National Socialists came to power in Germany under Adolf Hitler, and Märklin's eagerness to seize the time resulted in them also offering O gauge Nazi banners to decorate one's model station³⁶ although these had disappeared from the catalogue by 1937. The ability to release the model of the new station at Friedrichshafen in the year of its opening supports the argument that the company must have had some sort of connection with the railways' management. Erich Hagenmeyer seems to have survived the war, as he is listed in a post-war report from Major Kubala of the US Seventh Army Interrogation Center as being an expert in the construction of buildings, still working out of the Stuttgart Reichsbahn Division, but now promoted to Oberreichsbahnrat which is translated as "Senior Gov't Councillor for Railways." He is described as one of many Reichsbahn experts with "only lukewarm [Nazi] Party connections."³⁷ After this he seems to

³⁵ Märklin *Metallspielwaren - Metallbaukasten* 1933 p 18.

³⁶ Märklin *Metallspielwaren - Metallbaukasten* 1933 p 24.

³⁷ Kubala P. Major *Secret: Reich Ministry of Transport, Reichsbahn Division: Ref No. SAIC/33* pp 1, 4 and 6.

disappear.

Märklin launched their table-top OO gauge model railway system, half the size of O gauge, at a trade fair in Autumn 1935³⁸ and by 1937 this new system also featured a model of Friedrichshafen station.³⁹ But Märklin were not the first in the field with OO trains. The Nuremberg company Bing had brought out a complete OO gauge toy train system in November 1922, the Bing Tischbahn or Table Railway, and in the Spring of 1935, six months before Märklin, they came out with Trix Express, a full OO gauge system.⁴⁰ Stefan Bing worked closely with the English model engineer WJ Bassett-Lowke (1877-1953). Born in Northampton, after leaving school at 13 and working for 18 months in an architect's office, Bassett-Lowke went into his father's boiler-making business. As a hobby he began making model steam engines, and soon founded a mail order market for model engine components.⁴¹ Following a visit to the Paris Fair of 1900 where the German manufacturers of model railways made a deep impression, Bassett-Lowke began to import steam-driven

³⁸ Anon *Märklin OO/HO*

³⁹ Märklin *Metallspielwaren - Metallbaukasten* 1937 p 18.

⁴⁰ Anon *Märklin OO/HO*

⁴¹ *The Bassett-Lowke Story*

English-styled models from Germany. The first Bassett-Lowke model shop opened in London in 1908 and EW Twining became the firm's architectural model maker.

Basset-Lowke, as well as being a keen model maker and owning an architectural model-making company, was a patron of avant garde architecture. His first commission in 1916 was for the conversion and extension of a small inner city terraced house which he had acquired from his parents and where he planned to live on getting married. The architect initially chosen by Bassett-Lowke for the works at 78 Derngate, Northampton was Alexander Anderson, a Scot from Northampton.⁴² However, Bassett-Lowke then engaged a much more famous Scottish architect, Charles Rennie Macintosh (1868-1928), to carry out the work on what was Mackintosh's first building outside Scotland. The alterations to the street façade of the small terraced house were modest and not very noticeable, but the garden façade was remodelled into a dramatic white elevation which has been described as pre-dating any other modern movement work in Great

⁴²78 Derngate - a history - part 6: *The 1916/17 Transformation*

Britain.⁴³ The interiors were also extensively and strikingly re-decorated with panelling and stencilled patterns and some re-modelling was undertaken. The whole house also had new Mackintosh furniture and the overall design has been described as the start of a new phase in Mackintosh's career.⁴⁴

In the early 1920s Bassett-Lowke decided that a bigger house was needed, and his business must have been doing well enough for him in 1923 to commission the German architect Peter Behrens (1868-1940) to design a new house in a suburban setting on the Wellingborough Road in Northampton.⁴⁵ Behrens began working for the Allgemeine Elektrizitäts Gesellschaft (AEG) in 1907, designing light fittings, electric kettles and other products.⁴⁶ At the same time (October 1907) the Deutscher Werkbund was formed by artists, designers, industrialists and architects to promote design, and Behrens, arguably the first industrial designer in the modern sense, was soon a key member.⁴⁷ AEG

were not only manufacturers of lights and household appliances, as they still are, but of all the components of the electricity supply industry, and in 1909 Behrens designed the huge Turbinenfabrik in Berlin for the manufacture of turbine generators. Its clear internal space, 15 metres high and initially 123 metres long, allowed the large turbine components to be moved by gantry cranes from one production phase to the next.

By the time that Bassett-Lowke was looking for an architect in the early 1920s, Behrens was no longer a young radical. Bassett-Lowke was a member of the Design and Industries Association, the UK equivalent of the Werkbund, and had made contact with members of the Werkbund before 1914, through his association with the German toymaker Stefan Bing. It has been suggested that he chose Behrens from looking at illustrations of his work for AEG in the 1913 Werkbund catalogue.⁴⁸ The house that Behrens designed for Bassett-Lowke was, according to one commentator, the first "International Modern" house to be built in England.⁴⁹ It was completed in 1926 and was

traditional in plan, with a symmetrical two storey arrangement, having a lounge, study, dining room and kitchen plus a maid's room on the ground floor, with three bedrooms and two en-suite bathrooms upstairs, plus another maid's room and a den. Both main façades are symmetrical, the north facing street façade has few windows and no first-floor glazing, apart from a projecting triangular vertical strip to light the landing, while the sunny southern garden façade has large windows and balconies. In architectural terms it is more Art Deco than Modern, but even now the house, built of white painted rendered brickwork, appears quite shocking compared with its traditional neighbours.⁵⁰ Although it has been described as a "hopeless compromise," and an attempt by Behrens to keep up with the rising generation of architects,⁵¹ it does at least demonstrate that Behrens had quite a good grasp of the principles of passive solar design.

As well as commissioning houses, Bassett-Lowke was also busy with his model railways. In 1922 he had ordered from Bing in Germany a series of train sets that were half the size of the, until then, smallest O gauge but this OO

⁴³ Howarth quoted, Billcliffe *Charles Rennie Mackintosh*

⁴⁴ Billcliffe *Charles Rennie Mackintosh* p 222.

⁴⁵ Windsor *Peter Behrens Architect and Designer* pp 162-163.

⁴⁶ Windsor *Peter Behrens Architect and Designer* pp 77-82.

⁴⁷ Giedion *Mechanisation Takes Command* p 484.

⁴⁸ Levy "W.J. Bassett-Lowke as Architectural Patron" pp 67-74.

⁴⁹ Windsor *Peter Behrens Architect and Designer* p 162.

⁵⁰ "New Ways, Northampton" np.

⁵¹ Anderson *Peter Behrens and a new Architecture for the Twentieth Century* p 237.

gauge system was not a great success.⁵² However in the 1930s Bing and his German partners formed a new company called Trix which began by making metal construction sets, a little like Meccano. Bassett-Lowke persuaded them to have another try at the OO Gauge and the result was an electric railway system called Trix Express, which was subsequently sold in England as the Trix Twin Railway. It was called Twin because its novel feature was the use of a system which allowed two trains to be run under independent control on the same track. Initially the locomotives for Trix Twin were extremely unrealistic in appearance, with the same model offered in different paint colours to represent the different railway companies.⁵³ In addition to rolling stock, Trix in both Germany and then England, offered an elaborate range of station buildings, initially in wood and then in pressed or diecast metal. These were designed by the model maker EW Twining⁵⁴ and were in a determinedly

⁵² *The Bassett-Lowke Story* p 37.

⁵³ Matthewman *The History of Trix HO/OO Model Railways in Britain* p 23.

⁵⁴ "At the British Industries Fair, Messrs Trix were showing ... a full range of samples of the new "Many-Ways" Station Buildings ... They have been designed by Mr. E.W.Twining on the lines of the modern Southern

modernist style, not reflecting at all the station buildings that the young railway enthusiast might meet on his train journeys. In the case of Trix Twin, the English version, the modern station was represented in a clever series of interchangeable components which could create anything from a rural halt to a large terminus. The house that Behrens designed for Bassett-Lowke was called "New Ways" and the new Trix station system was called, perhaps in homage to it, "Many Ways" because the individual components could be put together in many ways to form the desired station building complex.⁵⁵ This method of combining a small range of components to achieve variety is arguably very similar to the technique used by Behrens in 1909 to provide an apparently wide range of electric kettle designs for AEG.⁵⁶

Hornby, a company which up to 1938 had manufactured only O gauge trains, soon realised that the table top Trix Twin system would eat into their sales, and came up with a

Railway stations now being built." Anon "Latest Developments in Model Railways" p 394.

⁵⁵ Trix Ltd *Many-Ways Station Sets: The Modern View of Building Model Stations*

⁵⁶ Woodham *Oxford History of Art: Twentieth-Century Design* p 25.

completely new system called Hornby Dublo (i.e. "double O") in OO gauge. This was available initially in clockwork and electric versions, and started with a small tank engine for suburban and goods trains, and a large streamlined steam locomotive for express trains, plus suitable coaches and goods wagons. Right from the start the Hornby trains, unlike Trix, were fairly accurate replicas of real locomotives, were cheaper than Trix, and ran on 12 volts DC (direct current) rather than Trix's 15 volts AC (alternating current). Märklin and Trix electric trains up to this point had used AC, because AC motors used electromagnets and it was hard to make permanent magnets small enough and powerful enough for DC motors that could fit inside a small model.⁵⁷ The big advantage of DC was that the train could be reversed by turning the speed control handle in the other direction, while to reverse an AC train required switching a relay in the locomotive which reversed the electrical contacts to the motor's magnetic coils.

Hornby had the modern streamlined locomotive, and to go with it they copied Trix and offered a series of modern streamlined

⁵⁷ Sidle *History of OO Gauge- Part 1* np.

buildings. At first made of wood with the windows painted on, the cynic might suggest that their Modernist design was only because Modernism in painted wooden blocks was a lot easier to achieve than High Victorian. However, after the war the wooden buildings were replaced by cast metal ones, more like those of Trix, and these continued to give an impression of concrete construction, although Hornby's buildings were complete objects rather than Trix's more ingenious systematised set of flexible components.

It can be argued that Märklin were the first company to offer a Modern station but this was initially only one building in a wide range of stations that covered many styles. When Trix and Hornby Dublo produced station buildings, they offered only the Modern. Trix indeed stated:

the present trend of real railway practice has been to adopt the modern style of architecture and this is truly exemplified in the standard model parts now offered to the model railway user.⁵⁸

Hornby rather more tersely describe their Terminal Station as "an imposing model in the

⁵⁸ Trix Ltd. *Many-Ways Station Sets: The Modern View of Building Model Stations* p 3.

modern style"⁵⁹ in their 1939-40 catalogue where they also make reference to the Southern Railway's stations "in many cases entirely rebuilt to quite futuristic and pleasing designs."⁶⁰ These model railway buildings represented the idea of the railways standing for progress and the future. The analogy now might be with France's TGV (Trains à Grande Vitesse), or China's CRH (China Railways Highspeed) networks. In both countries the new trains and their dramatic new stations have become an important part of national identity. In the early days of model railways the models offered to the public represented the most modern locomotives and rolling stock. Trix Twin and Hornby Dublo only made models of locomotives that were currently in service, going so far as to bring out new models in parallel with their entry into service on the real railway. An example is Hornby's 1,000 horsepower diesel locomotive, advertised at its launch in 1958 with the slogan "Run a Modern Railway - Run Diesel Electric!"⁶¹

After the Second World War when manufacturers were looking for markets for

⁵⁹ Meccano Ltd. *Hornby Book of Trains 1939-40* p 18.

⁶⁰ Meccano Ltd. *Hornby Book of Trains 1939-40* p 56.

⁶¹ Foster *Hornby Dublo Trains* p 147.

new materials, such as plastics, that had been widely developed and exploited by wartime industries,⁶² a third English manufacturer began to offer model railway equipment. This was the well-known toy company Tri-ang (the name being derived from the founders, the three Lines brothers, three lines making a Tri-ang(le)). The company was founded in 1919 and by the late 1950s their factory at Merton near London was the largest toy factory in the world. Tri-ang made a wide range of toys, dolls and dolls' houses, wheeled toys, soft toys, model vehicles, aeroplanes, etc.⁶³ While Trix Twin and Hornby Dublo locomotives were made of diecast metal, with the rolling stock of tinprinted sheet steel, Tri-ang right from the start in the early 1950s used the modern material, plastics, for the bodies of locomotives and rolling stock and even for the track. This made Tri-ang trains both quite realistic (because details could be moulded into the plastic) and quite cheap (because the material was cheap). The track, with steel rails on a moulded plastic base, had only two rails which made it look more true-to-life than the three rails used by the other two manufacturers. The first plastic used by Tri-

⁶² Freinkel *Plastic: a toxic love story* pp 25-27.

⁶³ Hammond *Tri-ang Railways* p 9.

ang was cellulose acetate, which is prone to distortion over time,⁶⁴ meaning that many early Tri-ang trains are now nothing like the shape they were supposed to be. When it came to stations and other railway buildings, Tri-ang really broke the Modernist mould established by Trix Twin and Hornby Dublo. Starting in 1952 they made a series of flexible building components based on balsa wood models made over a weekend by a freelance artist who did drawings for Tri-ang advertisements.⁶⁵ Tri-ang's "Extensible Railway Buildings System" was like Trix's Many Ways but made in plastic and representing not modern but rather typically Victorian railway buildings. The argument was presumably that these were the sort of buildings seen by the owners of the trains on their travels. But then, the Lines brothers, the founders of Tri-ang, unlike Bassett-Lowke, were not members of the Design and Industries Association and perhaps did not see their role as educating the public in the matter of modern design.

After the end of the war Tri-ang opened factories overseas in various Commonwealth

countries to overcome tariff restrictions that favoured local production. The first of these factories was that of Joy Toys in Whangarei, which Tri-ang bought in 1946. However, the factory was too small and so the next year they bought a 10,000m² building at Tamaki in Auckland and began manufacturing toys for the New Zealand market. Tri-ang began producing model railways at Tamaki in 1956.⁶⁶ However, it was only in 1964 that the tools for manufacturing the railway buildings were sent to Auckland having been sent from the factory in England to Australia in late 1957 or early 1958. The tools were modified to add "& NZ" to the inscription "Made in Australia" that was printed onto the underside of the buildings and the only other concession to local production was the offering of local station names to stick onto the buildings, including "Christchurch" and "Dunedin." The buildings were manufactured at the Tri-ang Works in Tamaki from 1964 until 1972.⁶⁷ These buildings did look reasonably like the sort of buildings that might be seen when travelling on New Zealand Railways but their manufacture in New Zealand did not occur until well after they had been completely

superseded in the UK by Tri-ang's new range of much more modern style buildings which began to be introduced in 1961.⁶⁸ So in the end even Tri-ang made exclusively modern buildings, although not in New Zealand where their plastic Victoriana lingered on into the 1970s.

This is not to say that New Zealand manufacturers ignored Modernism completely, at least in the 1950s if not beyond. To cater to what David Veart calls "The Great Post-War Train Famine"⁶⁹ the Auckland company Real Rail offered a range of accessories for the O gauge toy trains (powered by clockwork and twice the size of OO gauge) sold in New Zealand largely by Hornby. The 1949 Real Rail catalogue shows a Railway Station in a simple modern style, with "shelter, seat and non-slip platform" and a Signal Box with "stairs in imitation concrete"⁷⁰ although the latter building has a pitched roof so is not Modern in the manner of the Petone signal box described earlier. A range of names was provided for stations, including "Christchurch" and "Morningside." The Real Rail accessories are made of painted

⁶⁴ Hammond *Tri-ang Railways* p 53.

⁶⁵ Hammond *Tri-ang Railways* p 53.

⁶⁶ Hammond *Tri-ang Railways* p 12.

⁶⁷ Hammond *Tri-ang Railways* pp 360, 365.

⁶⁸ Hammond *Tri-ang Railways* pp 350, 352-358.

⁶⁹ Veart *Hello Girls and Boys!* p 127.

⁷⁰ Macdonald *Spring, Spark and Steam* p 84.

wood with sand sprinkled into the wet paint to provide the "non-slip" finish and some parts are made of recycled tin cans and other waste materials, an example of the wartime "Make Do and Mend" philosophy continuing into the 1950s. Their apparent Modernism may be more due to simplicity of manufacture than design. Real Rail ceased operating in 1958⁷¹ and did not make any accessories for the OO gauge railways which are the main focus of this paper.

Conclusions

Although it was the German company Märklin which was the first to offer a Modern station, it was both of the pre-war English purveyors of toy trains/model railways (and the systems discussed here perhaps straddled the border between these two ill-defined categories) which offered exclusively Modern buildings. This would have exposed the buyers, children and, no doubt, their fathers, who often appeared in the catalogues playing an enthusiastic part in the proceedings, to architecture that they would not be likely to see as railway passengers. This can be argued to be almost entirely due to Bassett-Lowke. Perhaps this is a more important influence on

attitudes to design than has been acknowledged, and could be seen as one of the biggest successes of the Design and Industries Association. After all, if you travelled on the London Underground, or on the Southern Railway, you got Modern design more or less as a by-product of your trip, but if you bought a Trix Many Ways or Hornby Dublo station you were actively choosing the Modern. It was Tri-ang that changed the focus of model trains from a progressive one to a more historical or even nostalgic one, when they announced their model of the 1894 Great Western Railway locomotive "Lord of the Isles" in 1961,⁷² ironically around the time they launched their range of modern buildings which replaced the Victorian ones.

New Zealand was dependent initially on imported model trains in the 1950s and three of the main manufacturers, two English and one German, all promoted the Modern in the models they offered. The only mass manufacturer of traditional style buildings was Tri-ang, who began producing the buildings in England in 1952 and from 1956 manufactured Tri-ang trains at their Tamaki

factory.⁷³ In New Zealand Tri-ang continued until 1972 making the traditionally designed model railway buildings that had been discontinued in the UK in 1960.⁷⁴ New Zealand in one sense became an outpost of tradition, as in the UK Tri-ang had replaced the traditional buildings with more modern ones, but on the other hand with its old fashioned buildings New Zealand could be argued to have been at the forefront of the growing trend for model railways to represent the past rather than the present. Of the three UK model railway manufacturers discussed here, it is only Tri-ang that has survived to the present, although the company is now called Hornby, and their trains are all manufactured in China. The station buildings they now make represent a pleasant English rural idyll, whose architecture is summed up in the name of the Hornby OO Scale buildings range "Skaledale."

⁷¹ Veart *Hello Girls and Boys!* p 131.

⁷² Hammond *Tri-ang Railways* p 154.

⁷³ Hammond *Tri-ang Railways* p 30.

⁷⁴ Hammond *Tri-ang Railways* p 337.

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