

Harry Beck: the Paris connection

TEXT BY
MARK
OVENDEN

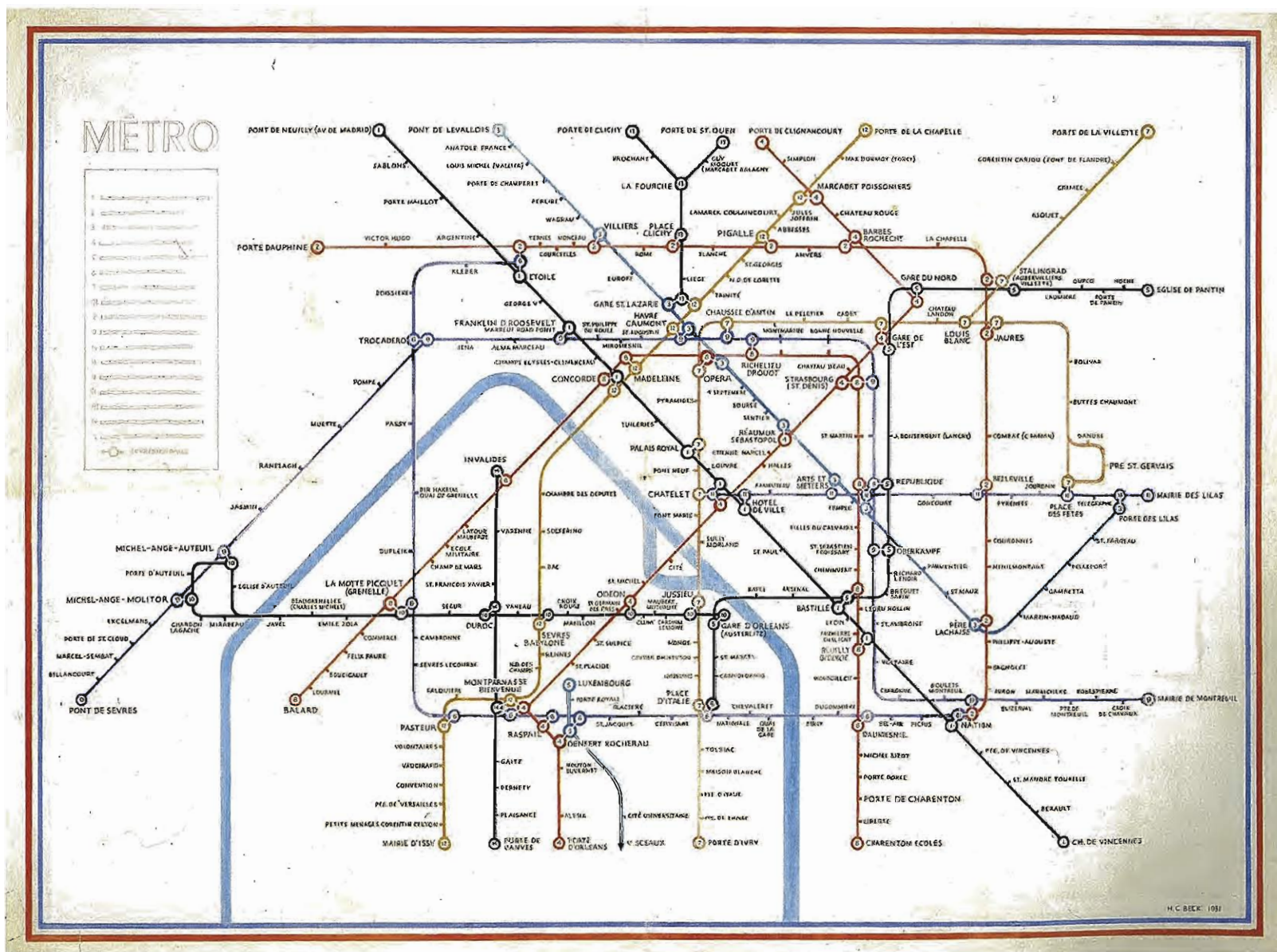
The Royal Mail commemorated one of the UK's greatest works of visual information design last month when Harry Beck's London Underground diagram was included for the first time on a British postage stamp. The importance of Beck's rectilinear, topologic 1933 diagram is widely recognised by graphic designers and much praised by 'wayfinders' (people evolving the discipline of signage and mapping the urban environment). Many wonder why Beck never extended his ideas outside London. The answer is, he did: to the nearest major subway network to London, Paris.

Despite his deserved fame, recent research shows Beck was not the first person to iron out

meanders in a waving rail line or colour lines in a system: he could have been inspired by other diagrammatic transport maps, by LNER draughtsman George Dow; individual line maps inside Underground trains; and possibly a geometric representation of the Berlin S-Bahn, believed to pre-date Beck's by two years.

Map collector Peter B Lloyd says Beck built on what went before: "going back to the Underground Group's first modern-looking maps of 1908". Beck's earliest sketches for the diagram published by London Transport in 1933 were first prepared during 1931 – the same date the Berlin S-Bahn plan was printed. Though it's not possible to know whether Beck saw this, it is unlikely he was aware of it – a case of great minds think alike? Dow's diagrams were, however, on public view from 1929.

London tube map enthusiast Professor Maxwell Roberts draws on his impressive collection of pre-



Harry Beck is heralded for his iconic 1933 plan of the London Underground system. But research has revealed that he may not have been the first to design a transport map in this way. Nevertheless, his design for the French capital was rejected and a diagrammatic approach to the city's system wasn't employed until 1999. Printed by kind permission London Transport Museum.

LEFT: In 1951 Beck submitted this revised edition of a map he had worked on for the Paris Metro in the late 1930s. But his map for the French capital was rejected and a diagrammatic approach to the city's system wasn't employed until 1999. Printed by kind permission London Transport Museum.

London tube map enthusiast Professor Maxwell Roberts recently re-drew Beck's 1951 diagram, colouring it to match the line colours used on official maps of the day. His map is now available as a poster from his site, afterbeck.com.

BELOW, RIGHT: The current London Underground map as seen on a UK postage stamp. Beck's design was included on a recent series of stamps that celebrated British design icons. © Royal Mail

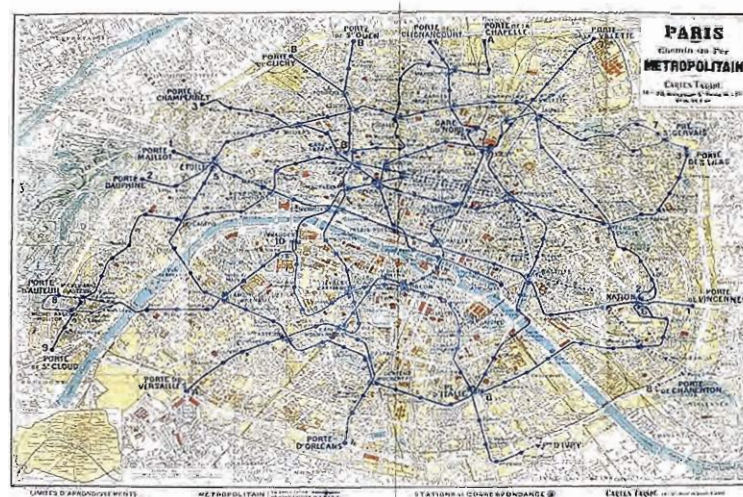


LEFT: Was this 1931 Berlin S-Bahn diagram an influence on Beck's iconic 1933 London tube map design? © BVG.

RIGHT: A 1930 topographic station wall map of the Paris Metro system. © RATP.

RIGHT, BELOW: Beck's first diagram of the Paris Metro. Ken Garland believes that Beck worked on this in the late 1930s, submitting the plan just after the end of WWII (only to see it rejected). Printed by kind permission Ken Garland/Capital Transport.

RIGHT, BOTTOM: Some rather excessive geometry on this Kandinsky-esque Paris Metro pocket map, issued by a private publisher in 1939. © All rights reserved



Beck railway diagrams, many emanating from the prolific Southern Railway's timetables, and some dating to the 1890s when mainline railways across Europe were struggling to show their perplexing array of routes as directly as possible. The Gotthard Winter Season plan of 1897, for example, has only straight lines between the big cities. And as Lloyd suggests, making a successful diagram is not simply a matter of straightening out lines: "The concept of a ... closed system, as opposed to a map of all railway lines ... the use of colour coding; abstracting the Underground from background topographical features; compression of outlying lines; the use of special symbols for interchanges - key elements of the visual language ... were all invented [before Beck]."

Despite these facts, Beck's contribution was impressive; the name of this electrical draughtsman has become an international byword for public transport schematics. His principles of neat 45 degree angles, elimination of topography and equalised station spacing have been emulated (as my book, *Metro Maps of the World*, showed) by urban rail map-makers from Atlanta to Zurich. But not, in the end, by Paris.

Like London before Beck, the Paris Metro network had almost exclusively been represented geographically: maps outside stations were (and continue to be) highly detailed topographic plans of the entire city, showing virtually every road, park and waterway with the Metro lines superimposed in all their winding glory. Though a few examples of privately drawn diagrams have emerged (one Kandinsky-esque rhapsody in abstraction from 1939, so utterly bizarre and impractical that it was never repeated), schematics were not adopted by the city until the last years of the 20th century.

According to Ken Garland's history, *Mr Beck's Underground Map*, the Metro operator approached Beck to design a diagram. Garland supposes the work was begun in the late 1930s but not finished until after the war. Little survives of his

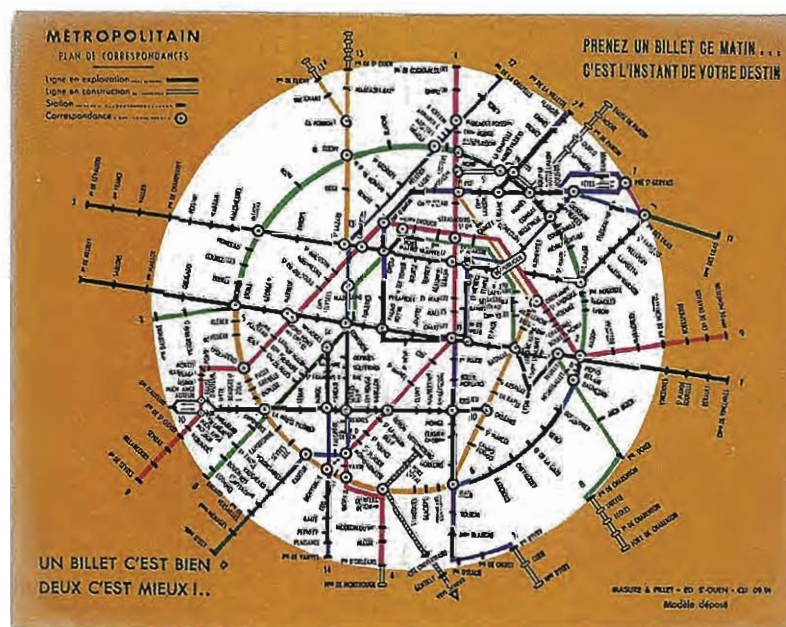
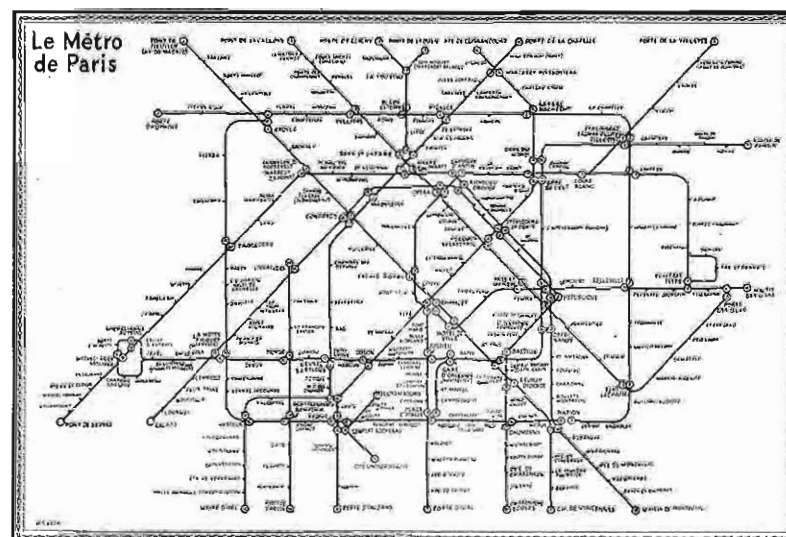


first attempt except a lone copy in Garland's collection.

The Paris Metro is not as easy to simplify as the London Underground. Firstly the lines interweave with each other more (Ligne 7 being the snakiest of these customers); this gives rise to more interchanges (by 1933 around 40 in London, 50 in Paris). Also the system was then mostly hemmed-in by the old Paris walls (a distance equivalent east-west to the width between South Kensington and Canary Wharf and north-south between Camden and Brixton). With 200-plus stations in easy reach, this is great for passengers, but more challenging for map-makers. One of Beck's greatest innovations was to massively expand inner London and condense the outer suburbs. This was just not needed in Paris (at that time) because the entire system was already in the 'centre' with very few stations in the suburbs.

What Beck therefore tried for Paris was in some ways more radical than what he'd achieved for London. He sought, in the mass of interlinked lines, some key visual axes to give his diagram order. Seizing the east-west running Ligne 1, Beck made it his prime axis (not as in London's Central Line, running horizontally, but at that neat angle of 45 degrees). He exploited something unnoticed by previous cartographers: that Lines 2 and 6 form a rudimentary circle. Beck transformed them into a rectangle with rounded edges. From these roots he plotted the other lines as straight as possible with impressive results: the curvaceous Ligne 10 becomes a flat line with its odd one-way loop stylised at extreme left. Kinky Ligne 14 is straightened to a single stroke. Ligne 3 - often seen on other maps with up to 11 direction changes - is reduced to just one nicely rounded alteration.

The overall appearance is clear, balanced and arguably easier to follow. But the key question was: would the French like it? The answer when Beck presented his first version was a resounding "Non!". Beck was not deterred. Indeed, his first London >



< diagram was also rejected but he persisted and eventually its adoption, adoration and appositeness for the Underground was widely applauded. The same fate was not to befall Paris.

Beck went back to his drawing board and produced a second version. It's not known if this was commissioned but, luckily for us, it survives in full colour and was recently revealed as one of the attractions at the refurbished London Transport Museum. It was published for the first time in a book when Paris Metro Style: In Map and Station Design came out in November 2008. Like any inspired genius, Beck did not waver from his initial concept: here again were his two original axes but Ligne 4 is simplified in its northern half. There are 15 physical direction changes in Ligne 7; Beck whittled these down to two. Ligne 8's 14 real bends went to two, Ligne 11's eight turns cut to none and Beck also, with great wit, added the River Seine.

So why did the Paris Metro (now operated by the RATP) reject Beck's clear simplification of their beloved system? One reason is visible at each station entrance; Parisians use the maps here as a free public service to help them find their way round the city – the ubiquitous geographic wall map is more than just a Metro plan. The French adore pure cartography – laying claim to many mapping firsts, not least of which was Cassini's magnificent Carte géométrique de la France – a topographic map of the entire country (begun in the 1670s, though not finished until a century later). The painstakingly precise 1739 Turgot map of Paris (a kind of 3D view from the air, purported to show every visible window) is legendary.

Aside from cartographic history though, Roberts argues there was a fundamental problem with Beck's Ligne 1 axis: "Paris is on a slant. Line 1 especially ... at roughly 25 degrees to horizontal.

For a traditional diagrammatic map, which angle should it be snapped to? Horizontal or 45 degrees? Whatever angle [is chosen, results in] at least one of the following problems: (1) uneven use of space as lines are compressed together or stretched apart more than in reality; (2) lots of kinks for trajectory correction to avoid (1); or (3) lots of geographical distortion." Roberts suggests Beck's omissions on both versions (Gare de Lyon missing and Montparnasse drawn wrong on the first, and both Edgar Quinet and Vavin stations missing on the 1951 version), led to suspicion that the concept was untrustworthy. In his fascinating critique of Beck's work (at tubemapcentral.com) Roberts postulates powerfully that though Beck's diagram has aesthetic qualities, it distorted well-known Parisian geography too much for comfort.

Also diminishing a diagram's benefits are the closeness of the stations to each other; one can be

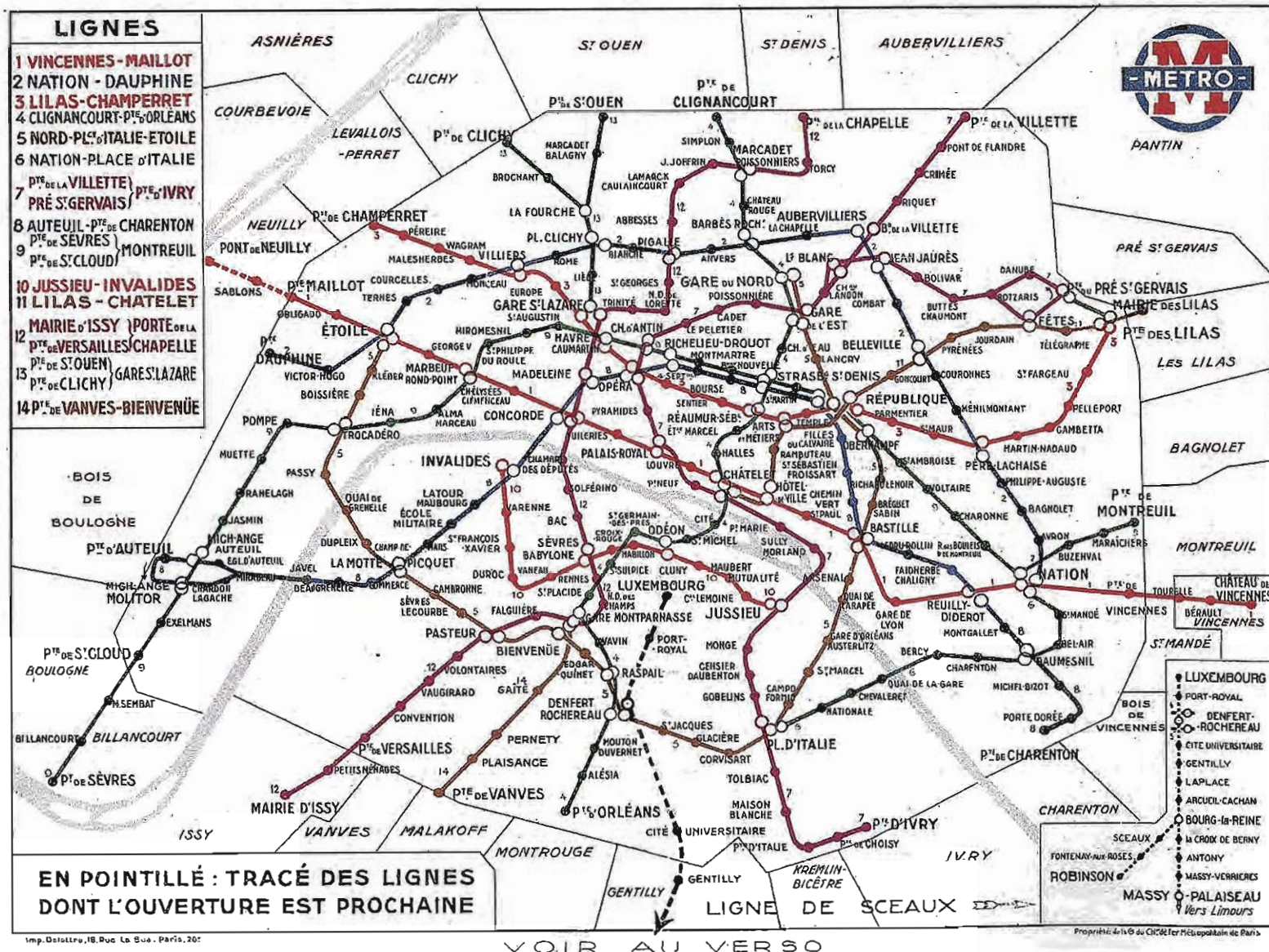


ABOVE: Sydney's mainline rail system was depicted in a 1939 card folder (cover shown) and bore a striking resemblance to Beck's map (Sydney map shown opposite; bottom left) as well as even borrowing the famous London Underground roundel. By kind permission London Transport Museum.

LEFT: A 1936 version of the 'Lagoute' pocket map of the Paris Metro with coloured lines, little topography and some straightening. © RATP.

OPPOSITE, BOTTOM LEFT: Beck's influence travels round the world to form the basis for a plan of Sydney's mainline rail system, as shown in a 1939 card map. By kind permission London Transport Museum.

OPPOSITE, BOTTOM RIGHT: The current Paris Metro pocket diagram in use today. © RATP



plonked down blindfolded in virtually any Paris quarter, walk 500m in any direction and theoretically bump into a Metro entrance. Although in practice there are several holes in the system, such station spacing is much denser than in any other city in the world; a feat the French are justifiably proud of. But pride may be the true reason for the operators' disinclination towards Beck's or anyone else's diagrams. By mid-century, Beck's London diagram was ubiquitous and it was beginning to catch on: Sydney's rail network was depicted in Beck style from 1939 (when a pocket map was issued on an identical sized folded card even aping the LU roundel on the cover). New York had its first Beck-esque diagram by 1958, Moscow and Osaka: 1970, St Petersburg: 1971, Munich and Tokyo: 1972, Melbourne, Montreal and Glasgow: 1976.

In staunchly proud Paris, despite the multi-coloured spaghetti with which most contemporary

maps portrayed the Metro, there was opposition to following Britain. Double-decker buses for instance were tried out in the 1960s but thought unsuitable for Paris streets partially because they looked too British. In addition, a 1934 pocket Metro map by F Lagoute introduced a style that lasted almost 40 years: though it fell short of standardising angles, its clarity and geographical reflection of the city was sufficient for Parisians not to complain.

Such dedication to home-grown products is highly commendable but, ultimately, the overwhelming practicality of the diagram has won out. During the 1980s the RATP experimented with pocket maps, progressively straightening lines, equalising station spacing and permitting a degree of abstraction. Mindful of Paris's prominent position as the most visited city on the planet, the forward-thinking head of RATP's design department, Yo Kaminagai, ordered his map

Further reading: *Paris Metro Style: In Map and Station Design* (£29.95) and *Metro Maps of the World* (£25) by Mark Ovenden; *Mr Beck's Underground Map* (£12.95) by Ken Garland; *Underground Maps After Beck* (£18.95) by Professor Maxwell Roberts. All published by Capital Transport and available from capitaltransport.com.

Mark Ovenden is a writer with a particular interest in the graphic design, cartography and architecture of public transport systems. His website is at markovenden.com

designers to begin a quiet cartographic revolution from 1987 which finally resulted in the commissioning of a diagram. The 2000 design from agency BDC Conseil adheres so rigidly to Beck's rules that he would surely have been honoured by it, and though there are now almost twice as many lines (including five RER lines) the current pocket map has become as accepted a part of French life as a Beck-esque diagram is for virtually every other city.

There was just one idiosyncrasy: the geographic maps were retained as large wall posters at station entrances and on platforms. Yet even this hegemony for true geography was finally toppled in 2008 by the introduction of a map for the Île-de-France region's rail services, becoming the first truly diagrammatic station wall poster. With 45 degree angles and distortion of some gaps and distances, one cannot help imagining that Beck, who died in 1974, would have cracked a wry smile. ■

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