The road map problem

Between the advent of the motorcar and the arrival of the sat-nav two interconnected map-problems confronted the motorist. First, how look at a folded map conveniently (and preferably without damaging it) in the confines of the front seat of a car. Second, assuming that there is no second map-reader acting as navigator, how to view the map while driving at those points on a journey when a decision must be made.

The most enduring solution — surviving even in the era of the sat-nav — has been the large-page motoring atlas at scales of varying from a usable 1:300,000 to the very satisfying 1:100,000 of the Philip’s Navigator Britain whose most recent edition proudly, and correctly, announces on its cover that it ‘includes what sat-nav doesn’t.’

The drawbacks of any atlas with a page whose size is A4 or greater (and most of these atlases are almost A3 in size — before being opened) are obvious: they are hard to handle without a table surface, bulky to carry and, with no obvious place to store them when not in use, are liable to damage by being tossed about on seats or thrown in the boot. But the greatest problem is that anyone driving alone must stop to consult them. It is therefore not surprising that there has been no shortage of ingenious attempts to solve the problem. Most solutions have been variations on older maps themes.

The mini county atlases of the nineteenth century can be seen as the models for glove-box mini-atlases for motorists. Some were really small: I have one that is just 83mm x 133mm and 6mm thick (!), while Ogilby’s itineraries foreshadow the various kinds of strip maps and map cards.

However, the most curious attempt, to my knowledge, at a solution is the ‘Auto-Mapic’ — they registered the name as a trademark — road atlas produced in the early 1960s. Here in a shiny plastic box one had, in the words of the blurb, ‘the fully automatic road map!’ With such a declaration on the cover, and the fact that it was presented as being used by the lone driver while actually driving (figure 1, above) one wonders why they were not ubiquitous.

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3 Johnson’s Pocket Road Atlas of Great Britain and Ireland which was still in print in the early 1970s, and showed main routes, with mileages, at 16 miles to an inch.
4 For example, the Jet Route Cards produced by Jet Petroleum in 1970; scale: 10 miles to an inch.
5 Nowhere is it stated in print that this map can be used while driving, but that is the clear impression given by the cover image. Not only would it be virtually impossible to see such
The blurb on the sleeve box is worth quoting:

The first fully automatic road map: automatic fingertip control moves large-scale maps into position as you travel. Every part of Great Britain comes progressively into view in the 9¾" x 6¼" clear plastic window of your Auto-Mapic. In addition all sections are numbered on a key map. Merely by moving your index fingers any section required is immediately visible. Safer and quicker to use than a folding map, the Auto-Mapic is a permanent solution to the road map problem. The precision and efficiency of the Auto-Mapic makes touring a pleasure. The perfect gift for the motorist.

Allowing for the fact that this is advertising copy, it is worth noting that every statement, apart from the measurement of the plastic windows, is questionable. But before examining its claims, a full description is called for.

A 1960s product

When exactly this atlas was produced is not stated anywhere on it. Nor has a Google search added much information: there are several references to these atlases there and a few on sale. However, from a study of the extent of the motorway system – the M1 is shown as running from Watford to Rugby with a spur to Coventry, and projected as far as Doncaster [map 9]; the M6 is only a projection near Birmingham [map 8] with the only open sections being the Preston and Lancaster by-passes [map 12] – the mapping reflects the road system in the middle of the 1960s.

Where it was produced is not mentioned anywhere, but the use of ‘map’ in ‘mapic’, the cover image of a right-hand drive car, and the fact that there was another version covering southern England points to Britain as its place of origin. That said, the inventors were thinking globally as they state that these are available for ‘South England, Benelux, New Zealand, Sweden, Austria, Germany, Spain, Switzerland, USA-East, and USA-West.’

Physically, it is a hard plastic box measuring 8" x 13½" x 7/8" (the actual box is 7½" wide but the finger tabs project beyond the box on each side) and it weighs 630gms (figure 2). It came in a cardboard sleeve cover, which would be needed to protect it when not being used, measuring 8 ¼" x 13 ½" x 1". It contains twenty maps, each cut into seven strips, in a mechanical arrangement such that by sliding the tabs on both sides a ‘sheet’ comes into view. It has two windows, front and back, and when the first map comes into one window, the eleventh map comes into the reverse window, when the second map is in the front window (Cornwall) the twelfth map (the north of England) is in the reverse, and so on. It is, therefore, not possible to view two adjoining maps simply by turning over the device: each map has to be selected separately. The maps are hidden until pulled down into view; the idea underlying the mechanism is the same as that which is used in a theatre for dropping scenery.
From the examples for sale on the web, it appears that some car manufacturers, eg Jaguar, used them as promotional accessories; and there is a raised, blank panel on my atlas to take the name and logo of a sponsor. How widespread was this use of the Auto-Mapic I have been unable to ascertain. Nor have I been able to find out how successful the project was commercially nor for how long were these devices on sale. I suspect they were a flash in the pan!

The mapping

After the key map, we are given 18 maps covering Great Britain at a scale of around 12 to 15 miles to the inch. This is determined from the scale bars on the maps and from measuring the distance in inches between places on the maps connected by straight roads against the distance printed alongside the road.

Nowhere is the maps' scale stated. Moreover, the scale is not constant. Most are just over 13 miles to an inch, in one or two maps it is slightly larger (12 miles to an inch), while in others it is slightly reduced (15 miles to an inch) – mainly in the Scottish Highlands – because of the need to fit 'sheets' to windows. Again, this is no mention of these variations in scale. Lastly, map 20 is a map labelled 'London' (it reaches, west to east, from Heathrow, called simply 'London Airport' to Bexley) at c. 3/8" to the mile.

The mapping merely pinpoints towns with the roads distinguished by their classification (motorways, principal A roads, other A roads, B roads, and few other connecting roads) and can be used for route planning between towns. Using a limited colour palette and with an attempt to show high ground with deeper colours, the overall effect is pleasing and gives the impression of full-colour mapping. The lettering, in a neat sans-serif font, is clear and well located on the map, the road numbers and distances between places are easy to read (if held steady as one would hold a book for reading), and some additional geographical information – a few coastal features, some mountains, and river

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6 Imperial is being used as the atlas used this with reference to itself (on the sleeve) and because distances on the maps are given in miles.
7 There is one on each map marked out in miles and kilometres.
names – is included without cluttering the ‘motoring atlas’ dimension. Also included are the railways – perhaps an unnecessary element in a maps so specifically intended for the car – and these show some of Dr Beeching’s cuts but leave other lines, already under sentence, intact. It is probably this feature of the maps, rather than the expansion of the motorway system, that went most rapidly out of date.

Given the small scale, the mapmakers have done an excellent job giving as much information as possible without compromising clarity. Certainly, when compared with some of the mini glove-box atlases at similar scales, these maps are not only rich in detail but pleasing to look at. Compare figures 3 and 4 for cartographic elegance.

Most of the maps are in portrait format (longer N-S than E-W), but maps 2 (Cornwall), 17 (Western Isles), 18 and 19 (NE and NW Scotland) and 20 (London) are in landscape format which, assuming one is holding it in one’s left hand while steering with the right, makes the device even more awkward to hold.

**Was it a solution?**
The appeal of this atlas is that it correctly identified what its blurb called ‘the road map problem’ and the inconvenience of a ‘folding map’ in a car. But its claim to be a ‘permanent solution’ was not only not fulfilled in practice, but was an arrogant claim to begin with. Mapping on such a small scale can never be of more use than a tool of route planning which, on the road, can then simply provide a list of waypoints used in relation to signposts. It is quite useless for road navigating: on an actual journey the driver, or navigator, would be actually reading road signs and not these maps. All one can ‘read’ on the maps is a sequence of towns, and even on the larger ‘London’ map one has only the names of districts and suburbs.

Just how little coverage the device gives can be seen by comparing the page area of the main mapping:

<table>
<thead>
<tr>
<th>Map Type</th>
<th>Maps x Page Area in Inches</th>
<th>Total Map Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philip's Navigator (2014)</td>
<td>313 x 12 x 10</td>
<td>37560</td>
</tr>
<tr>
<td>Auto-Mapic</td>
<td>18 x 9.75 x 6.25</td>
<td>1097</td>
</tr>
<tr>
<td>Johnson's Road Atlas</td>
<td>42 x 3 x 4.75</td>
<td>599</td>
</tr>
</tbody>
</table>

While we should note that 35 of the Navigator’s maps are at a smaller scale (1:200K), even those maps are much more detailed than the Auto-Mapic; while the Johnson mini-atlas is just as efficient for route-planning as the Auto-Mapic, is only slightly smaller in scale, it much more convenient since it would fit in a glove-box, pocket or handbag, and its font-size if virtually the same (and it retailed in the late-60s for just 3/6 [= 17½ p] whereas the Auto-Mapic presents itself as a more expensive item such as one would give as a gift). In effect, as a tool for motorists the Auto-Mapic has no advantage over the mini atlas!

But has it any drawbacks? The first and most serious defect is the notion – hinted at in blurb and suggested in the image – that it could be used by the driver while driving. No map, much less a coloured quasi-topographical one with
lettering that is less than 10pts, can be read with safety – each glance requires one to re-locate oneself on the map and then read it – while driving; and any map that encourages one so to do is inherently dangerous. Secondly, it would have to be held at reading distance to be intelligible. Thirdly, while it is presented as something one can hold in one’s left hand, doing so for more than a moment is tiring especially when it has to be held in a landscape format.

So what of its many claims? It claimed to be ‘automatic’ but it is a manually operated mechanical device and no more automatic than turning a book page. It claimed to have ‘fingertip control’ but it warns on the key map that ‘at all times move [the maps] with both index fingers’. In fact this means that one must use both hands to change maps with the other fingers and thumbs holding the device. It declared that it offered ‘large scale maps’ but allowing that ‘large’ and ‘small’ are terms relative both to one another and to their users, it is a little far fetched to call any map smaller than ¼" to the mile ‘large’. When one recalls the list of countries covered by Auto-Mapic maps one can only wonder how much detail could be shown on their maps of Spain or Germany, much less east and west USA. No matter which country was being mapped, including Switzerland, the coverage is at atlas scales. The claim that one can use the map ‘as you travel,’ the image of the driver holding it, and the title ‘auto’ (alluding both to automatic and automobile) is its greatest falsehood: it cannot really be done and, hopefully, was not often attempted. While it is true that ‘every part of Great Britain’ is covered, the rest of the sentence (‘comes progressively into view’) is false. The mapping does not unfurl by itself, but is made visible manually with more effort and time than turning to a particular page in a motoring atlas. In doing this one needs both hands and not ‘merely ... your index fingers.’ And by now it should be clear that I do not consider it either ‘safer’ or ‘quicker ... than a folding map.’

The Auto-Mapic is a wonderful cartographic curiosity, its style, look and feel image the confidence of the 1960s, but it has no claim to have been ‘a permanent solution to the road map problem.’

8 These claims are taken from the blurb quoted above.