THE FALLACY OF REMOTENESS

by

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The basic assumption of Geoffrey Blainey's *Tyranny of Distance* is that transport cost is proportionate to the distance between two points. If this thesis of remoteness is to be sustained we must at all times test it by reference to contemporary circumstances in other sea-borne trade. In the early sailing ship era the lands of the Baltic Sea, Canada and even the Levant were too remote in winter for European traders. The West Indies had a two months hurricane season, a round trip a year was normal. Then and now Australia has enjoyed open navigation at all seasons, a powerful offset to the costs imposed by distance. With airways and iron ore trade the advantage of this is more obvious every day. The tyranny of distance in the East India trade meant that a round voyage took at least eighteen months but the tyranny of sea miles was always offset by the scale of bulk cargoes which gave fabulous profits by comparison with the trade by the land caravan routes to the Levant. Yet the East Indiamen made only six voyages before being broken up.

The myth of Wakefield's influence on assisted migration to Australia must be viewed against the fact that for half the year the emigrant trade to Canada was out and the contractors of this pauper slave trade urged an off-season trade to Australia. Clearly to them a government-backed export of redundant paupers, plus the other trade opportunities was enough to offset remoteness. They exported a lower grade article than did the convict ships — evidence of the demand for labour — but the market for servants was not too remote for the merchant ship owners.

The southern oceans might have been a waste of waters to a seasick emigrant but to the whalers they held promise of wealth so long as a few island harbours served for refreshment. As Crevecoeur wrote of the Nantucket people, 'The sea was to them a sort of patrimony'. The whaler merchant urged on the government a universal freedom for their fishery at a time when the plans for commercial bases did not extend beyond Southwest Africa.

Blainey has no space for a mention of Cook's third voyage yet this rounded out the commercial prospects of the whole Pacific. Cook's last opinion on the fur trade of Northwest America was that 'it might prove too remote' for English traders but at that time he did not know the prices furs brought in Kamchatka and Canton. His ships reached London in 1781; four years later two ships were sent from there but merchants of Bombay, Calcutta and Canton anticipated them. The French sent La Pérouse, Boston merchants also sent two ships, so clearly geographical distance was offset by something else. Thus new prospect of fabulous profit had a similar effect to the discoveries of alluvial gold in California.

Blainey's theme must be examined in two parts, the oceans and the

Continent. The nature and significance of the new navigation methods is missed. Professor Beaglehole also got the wrong answer in his introduction to the journal of Cook's First Voyage. He corrected this somewhat in the second journal. The essential technical fact is that Cook and his team proved the efficacy of the Lunar Distances method, based on Maskelyne's Nautical Almanac. They also proved the chronometer, until when it broke down they reverted to Lunar tables only, with no loss of accuracy. Until the chronometer was cheap, which took another fifty years, and until observatories for time checks were established in all main ports, the chronometer was of no commercial importance. Yet the Lunar method became standard — it was cheap, accuracy came with practice, and as there was nothing to go wrong it was reliable. Cook proved this and trained a galaxy of experts who based methods of nautical academies for over a hundred years. The same things happened with Dutch, French, Danes, Americans and others.

The outcome of this application of mathematics to surveying and navigation can be summed up thus — Cook and La Pérouse, Baudin and Flinders, with their team of experts, established the position of coasts, harbours, islands and shoals with such precision that merchant skippers could navigate with sufficient accuracy by the use of Log, Lead, Latitude and Lookout, without use of Lunar fixes at all and certainly without the chronometer. Sufficient accuracy meant making a landfall within ten miles of the one they expected to make. In long sea passages lunar fixes were more important than in short ones but there was also more time in which suitable conjunctions of stars, plus visibility, were available and on the other hand the longer traverse gave the chronometer (if any) more chance to develop aberrations. So Australian settlement as a base for all Pacific trade (of which the China trade was always and by far the most important) began when merchant ships could be reasonably certain of their landfalls. Precise calculation is essential to commercial success and is a powerful offset to mere obstacles of distance.

In the three plans urged in 1784 upon the British government the virtue of 'fair and open navigation' into the Pacific is stressed. There was no need to spell this out to the East India captains or the whalers. That the coasts of New Holland were bold, steep-to, free from offlying dangers, free from the fogs and long winter nights of the North Atlantic, free from the ice hazards of Cape Horn, meant that ships could stand on boldly by night and day. The new methods gave certainty of sea room and so East Indiamen ceased their hitherto invariable practice of heaving-to at night — something comparable then to the achieving of night flight with commercial airways. In brief the Australian and Pacific seas had fair winds and open seaways at all seasons and traders could take full advantage of the speed of larger ships then building for the Canton-direct tea trade.

Here we might pause to consider a general proposition about the impact of European scientific revolutions upon Australian remoteness. At all times

the transatlantic trade, to North America and the West Indies, and the coasting and Baltic trade, even the Mediterranean trade, were more important than the East Indian. This shows out in the naval strategy of Nelson and Rodney. It was in the North Atlantic that the problem of the longitude arose — the chronometer was tested on a Barbadian voyage. Charts and soundings, lighthouses and bouys, compass manufacture, tidal measurement were all improved for European needs. The Lunar and chronometer methods are useless in thick weather — and skippers were forced to rely on log, lead and lookout. So the precision of celestial methods in position finding had a restricted merit — up to the point where ships entered the zones of fog and storm cloud. Channel fever was an endemic disease of homeward bound skippers.

Now consider Australia. How rarely were ships delayed in making port or in sailing compared to the delays of the outward or homeward bound shipping in the English Channel! The Dutch, Danes and Hamburgers had the same problems. (The rise of Bristol and Liverpool and Glasgow is due in part to the freedom from the hazards of the English Channel). So the methods which were found to reduce the length of passages in the North Atlantic were far more effective in Australian voyages — a further offset to the costs imposed by mere geographical remoteness. The simplicity and safety of haven-finding both here and in Eastern seas was a persistent fact.

The period when the great prize of the China trade was being striven for was also the period of building lighthouses (lit by whale oil) to speed the homeward and outward bound. Consider the history of the Trinity House Commissioners and how in 1798 a separate body of Commissioners for the Northern Lights was set up. Yet in Australian waters three lights sufficed for Bass Strait, Cape Wickham, the Otway and Kent Group. The Low Head light was set in 1833, the South Bruny 1835, the Iron Pot earlier still. By the time Australian lights were built the mechanical flash control and the reflector lens were commonplace in Europe and again the European invention was extended to these colonies. Both their small need of lights and the identity of salient landmarks reduced shipping costs.

Blainey goes to some pains to argue that Torres Strait could have been used for trade from Sydney to Jakarta but the fact remains that it was not and for very good reasons until the use of steamers on the mail link with Singapore made it advantageous. Even then they often anchored at night. The intricate channels and absence of shoal beacons are sufficient explanation. Joseph Conrad's voyage through it in sail shows how it was the same there a hundred years later. Yet Blainey does not show the known value of Bass Strait clearly enough. True it shortened the voyage to Sydney but only if winds were fair. Ships using a modified Great Circle course, on which he puts so much importance, threw away some of its advantage by using Bass Strait.

On so many nautical matters like this he is only half right at best whereas with Port Phillip settlement (p. 77) he is quite wrong. The Bay was neither

safe nor capacious. The entrance was, and still is hazardous and its capaciousness is all on the surface which for deep draught ships means it is an illusion. Until the shoals were marked and the entrance lit it was no place for large ships.

Collins's remarks show that he had hoped for another Port Jackson — a haven for commerce — and for this as ships were then it was useless. To suggest that Collins might have chosen the site of Melbourne is even more absurd as he shows (p. 197) that the Yarra then had only 9 feet of depth. (Geelong was a likelier alternative). Collins had no need to persuade King who already had the reports of Robbins and Grant on their surveys. There is another piece of relevant evidence. The *East India Directory* of 1834 recommends Western Port as of interest to ships in distress but warns them off from Port Phillip — and we must note that today Western Port is Melbourne's oil port for supertankers as they cannot use Port Phillip Bay at all. Horsburgh's *Directory* was published from 1811 onward and the data given shows how important the Australian Coasts were to East Indiamen.

The remark 'if Collins had been a different kind of man' is an example of a too common error of historians. Once 'if' is admitted anything goes and any explanations of historical phenomena are impossible. It is hard enough to be positive on the facts of things as they were without arguing that if my aunt had been different she would have been my uncle. When settlers looked for wealth from the oceans and not from the land a settlement at Port Phillip was a certain failure, no matter who commanded it. No whale ship for example ever tried to enter that death trap and Collins knew this would be so. King and Hunter too concurred.

As for Port Jackson, Blainey quotes (p. 17) a remark of Governor Phillip about the colony's dependence on supplies from England but omits the preceding opinion that 'it would prove to be one of the greatest acquisitions Britain had ever made'. On the strength of this statement, made only six months after the landing, Phillip has been dubbed visionary by some eminent historians. It was made of Port Jackson, not of the hinterland, by a prosaic, competent naval officer who had served in Asian and American waters and in the Portuguese navy in Brazilian waters when the sperm whale fishery was most active there. On what was then common knowledge to nautical men about the prospects of trade and the value of a base in those seas it was nothing more (nor less) than a shrewd professional appraisal. To quote the second remark without the first shows an inadequate understanding of that appraisal.

There is another technical matter of which Blainey is right to stress the importance but gets essential details wrong. The mariner's compass was an imperfect instrument for many reasons and until 1870 its construction was not standardised. The search for greater precision was a parallel quest to that of the Longitude and the Flinders bar (still used) perpetuates one improver's name. The building of iron ships brought problems but no

greater than those arising from wooden ships with iron engines or with cargoes of Swedish bar iron. Flinders also began the practice of swinging the ship before sailing to record deviation on all points of the compass and this is not dependent on mere change of hemisphere. The instances given of compass error in iron ships (pp. 209-210) merely show laxity of ships' officers in failing to check error by azimuths, a simple routine operation. The notion that a portable compass taken to the ship's mizzen mast head could act as a reliable check is quite ridiculous, unless the ship was in port or fast in pack ice.

The important fact remains that compass improvement and allowing for measured error was and still is standard practice in seafaring but like all others it paid greater dividends in oceans of fair and open navigation where azimuths of sun and stars were more continually available.

The use and utility of Great Circle courses is very much overstressed. On his own statements it was a very much modified course which gave a much modified advantage; the advantage of stronger and more constant winds was what was sought in High Latitudes but only ships with size and strong gear could risk that course. It is also an exaggeration to say that any mid-ocean current ever added three knots to a ship's speed. As for the damage to iron ships (p. 212) allegedly not as buoyant as wooden ones (both on the strength of newsmen's reports), it is more likely that they carried sail in gales because they had strength to risk this.

This brings us to a very material point in Australian history. We are told the composite clippers had iron lower masts and galvanised wire shrouds and stays. Here operated the third dimension of distance. Any rope, rod, mast or spar is a device for transmitting energy. The use of iron masts and shrouds gave ships strength to harness the greater wind forces of high latitudes and sustain that force for weeks on end. The iron frames of the teak-planked tea clippers and the iron hulls of the larger wool ships could resist the stresses built up by rough seas and gales. It was this which permitted full use of iron wire, and the southerly courses. Wrought iron, Swedish charcoal iron was best, not steel. That came a little later. One of the last iron ships built on the Clyde was the *Lawhill*. Built in 1892 she was still in service in 1945 and her hull plates were still sound. As for speed of iron ships the *Lancing* four-masted barque, is credited with logging eighteen knots for seventy-two hours on end or 1,300 miles in three days. That is liner speed. Moreover she was converted from steam.

Steel wire rope was invented in 1834 for deep lead mines of the Harz Mountains. The inventor was a public servant Oberbergrat Albert of Clausthal, where today the Bergakademie still draws students from the whole world. The invention was important for all deep mining, lowering the costs of vertical distance. Its use spread rapidly, a consequence of the large scale production of iron in all forms and of the growing demand for base metals. This is another European development which proved the Australian base and precious metals were not too remote in distance or

depth to attract European investors and workers. Increasing use brought specialised production and lower prices so that riggers in shipyards and logging camps saw the possibilities. By 1850 at least it was in service at sea. The point in Australian history is that the effect upon speed and size of ships had a more powerful effect upon disproving remoteness in the open navigation of the southern hemisphere than it did in the North Atlantic.

We might note in passing the effect of wire rope upon the timber industry and logging techniques which turned our giant eucalypts into commercial timber. The giant trees were not commercial resources until steel tools and gear were applied.

There is one aspect of the seas which Blainey seriously understates. He refers to triple expansion steam engines but not to the high pressure boilers which went with them. It was the application of cheap steel to these as well as to shipbuilding which brought about the great age of the dry cargo tramp steamer as well as of the large steel sailing ships and the high powered locomotive. On p. 287 appears the remark that between the 1850's and 1914 steam ships did not substantially cut the cost of sea transport, followed by the assertion that though freight rates from Europe to Australia fell they would probably have fallen nearly as much if sailing ships had remained the main carriers — that the increasing volume of trade did more than shipping innovation to lower costs. Again 'if' is misleading and unhistorical: we know that sail ships by 1914 were less than one tenth of the world's registered tonnage and were profitable only in regions where bunker coal was dear like the Chilean nitrate trade. In this the giant *Preussen* from 1900 to 1910 made two trips a year carrying 8,000 tons of freight at an average speed of 7½ knots. No cargo steamer of that time could touch that. However if increasing trade still met lower freight rates on the Australian run at a time when sail ships (albeit with steam donkey engines for working sails) were ageing and not being replaced the cause must lie in increasing competition and economy of steam powered freighters. The steamers also used the Roaring Forties.

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Let us turn now to the inland of Australia. The period of pastoral development was essentially one in which English capital was invested in extending the frontier into arid lands displacing kangaroos and aborigines and planting sheep, cattle and shepherds. The inland plains were a land of promise not a distance to be overcome. The contemporary clearances of the Highlands show that compared to the return expected these were economically marginal. The black cattle and the aboriginal Celts were replaced by sheep and a servile tenantry. A similar contemporary investment in sheep was taking place in the Ukraine and in Saxony, as well as in America.

Just as cheap steel brought cheap transport which extended the wheat belt here, so also in the Ukraine after 1860 large scale wheat growing displaced the fine woolled sheep which by that time had increased to fourteen millions. Historians who use folk songs as sources may try to persuade us that 'stringy-

bark and rawhide were the mainstay of Australia' but sheet iron and iron wire were and are far more important. In exploiting the resources of the inland we know that bullock power and horsepower were indispensable, in various specialisations. The bullock teams used larger beasts than were ever bred or needed in any other country to bring the heavy rugged wool wagons to the ports and haul giant logs to sawmills. The chains were forged in Birmingham; the iron for tyres and bolts and oxbows was also made in Britain. Chain was used here to transmit energy on a scale Europe never knew.

Horse power was even more decisive. The draught breeds of Britain were applied here to large scale farming on a scale transcending the European. The seed drill, mower, reaper and binder were invented in Europe and America but the stripper and disc plough were Australian. The combine harvester also had a large Australian component. Horse-powered farming assumed large scale from about 1870 and on the vast wheat fields there was a growing demand for speed and power combined: speed, because the reaping and threshing machines are efficient only at a designed speed. Therefore on the land the free stepping Clydesdale breed was improved, adapted for Australian conditions — a plain case of innovation. On road haulage too there was profit in having teams that covered the miles. In town carting, for heavy loads and short distances, as between railway and port, the heavier, but clumsier, Shire breed was used but on the land and the country road speed as well as power were valuable.

Consider what all this meant in power transmission. All power depended on wrought iron, iron chains, iron hooks and rods, iron tyres, iron shoes and iron horse nails. All this came from European ironworks, the rods for village blacksmiths and the nails of soft, tough iron were of best quality Swedish charcoal iron. The accessories, buckles, stirrup irons, haimes, curry combs, shoeing hammers, anvils, pincers and rasps were products of Birmingham, if white metal, and Sheffield, if steel. Sheffield steel for thousands of types of knives, chisels, files, saws, was made of Swedish charcoal iron.

It is not then the tyranny of distance that describes our story. It is rather that devices and methods invented and applied to industry and transport of the northern world paid bigger dividends for those who 'saw the vision splendid of the sunlit plains extended', and adapted and improved European methods, materials and animals to harness that energy extracted from this soil. The wealth of minerals and wool and grain attracted capital which paid for the machinery as well as for the imported workers but it was especially the cheapening of iron, first in Britain and then in America, which provided the cheap devices for the exploitation of Australian resources.

We might note that our dairying industry was mechanised with devices evolved for the special conditions of Scandinavia and moreover were the products of the special steels and excellent engineering techniques of those regions, a fact too little regarded here because our history books too were

made in Britain. The basic theme is the same as the other examples given. A set of devices to economise skilled labour in a region of high living standards and short intense summer was more rapidly applied in Australia than in other parts of Europe because there was profit in dairy production for export only if the economies of larger scale were sought, thus using to their full capacity the mechanised labour saving methods.

Another example one would have expected from Blainey is the reticulation of water by steel pipelines especially the spectacular case of the West Australian goldfields. We might note in passing that the steel pipes were supplied from the United States because only from there could pipes of large diameter be supplied. The techniques of pipelines and pumps evolved for American conditions were applied here because of the high profit margins of the Kalgoorlie field.

In the same way the Pelton turbine with its high-head pressure line, was invented for Californian mining and was adopted almost at once both in New Zealand and Tasmania, another swift extension of American techniques and materials which brought energy from its source to its point of use. The most characteristic Australian applications of European materials are in sheet iron, plain, galvanised or tinned, and iron wire. Galvanised iron was made for European uses but in the outback it found even more profitable uses for roofs, walls and tank storage. It was the cheapest building material in all parts inland of the forest belt and moreover gave effective water catchment and storage where the cost of water was an essential condition for any production, animal, vegetable or mineral. Wire, also galvanised, plain or barbed fenced runs and kept labour costs down. The galvanised net called chicken wire in Europe made rabbit proof fences in Australia. These products, invented for European needs and supplied at European costs, with cheap outward freight when ballast cargoes were eagerly sought, lowered investment costs for the exploitation of otherwise too remote Australian resources. Iron products generally, rails, beams, rod, sheet and wire were supplied at lower cost because of the demand for ballast cargoes in ships attracted to Australian ports for lucrative wool and ore charters.

The story of kerosene is well known, the cheap efficient lighting oil which replaced whale oil in colonial lamps. The cheapening of tinned plate gave cheap containers which were in the dry outback an invaluable godsend; kerosene tins and later also petrol tins served as buckets for water, milk, for cooking food for men or animals; useful in towns but invaluable in the arid interior, an important article of farm capital, and free. Another gift of nature was the square iron tank which was carried in cargo ships stowed with crockery, iron tools, chocolate, starch, malt (see p. 213) and other perishables. These tanks were of plain heavy gauge iron, rivetted, strong and durable. From ship to train to horse wagon these first freight containers went to up-country stores who had a waiting list for them. It is an index of the cheapening of wrought iron after 1870 that such containers were more economical than pine packing cases. Non-returnable of course, they

were a further piece of cheap capital equipment in an arid land where cheap water storage was an essential condition for industrial production.

It is the essential feature of every imperial metropolis that the bulk and weight of its inward trade exceed by far the bulk and weight of its outward. When Britain grew into an industrial capitalist imperialism the excess of imports in volume arose inevitably from the commonplace that woollen piece goods are less bulky than the wool of which they are made and from the excess in value from dividends, interest, tribute and plunder received. In 1865 W. S. Jevons argued cogently that the supremacy of Britain as the world's manufacturer depended on its output of coal, two thirds of the world's total. He showed too that outward freight rates to the world's main ports were about half those of the inward. He predicted the inevitable decline in British manufacturing supremacy as the cheap coal of Britain became exhausted and that of the Ruhr and Pennsylvania was exploited.

In this phase of expanding imperialism it was inevitable that the competition for ballast cargoes should give low outward freights. This helped to increase the export of iron and iron products but also Welsh slates, London fire bricks, earthenware, beer, whisky, as it did that of china, Dutch tiles and Baltic timber. The scale of this seaborne trade to Australia arose because of the low cost of production here of fine wool, which enjoyed an inelastic demand but to this was added a gold output whose price was subject to zero elasticity and base metals for which also demand was inelastic.

The course of Australian history can be explained accurately only by examining the effects of these conditions. At all times the industrial and social changes of Europe, and in the last hundred years of America, have produced effects quite different from what they did in Europe and that is why Blainey's theme of transport conditions is so valuable. The horse transport phase was followed by the motor car, more on American than British lines as he shows. The bicycle is worth a passing mention. The Bicycle Boom of the nineties was a British phenomenon and Australian bicycles were of British descent. The bicycle marks in so many ways the rapid improvement in engineering trades almost as well as the motor car does. A cheap frame of light steel tube, steel wire for wheels, pneumatic tyres and ball bearings with a chain drive — a combination of the steel techniques of that age. Mass production for the European market meant cheap transport for colonials and nowhere did it change travel more than in the arid outback of Australia. The shearers in the great strike of 1893 had bicycle transport, a factor as powerful in their mobility as in that of the Japanese army of 1942 in Malaya.

To stress mere distance or remoteness is to obscure the fact that the attraction of investors and workers depended on resources of vast extent — whether grass-lands or minerals. Witness the bauxite deposits of Weipa, twelve years ago unknown, but so extensive that the helicopters ran out of fuel in exploring them. Metal seekers don't find that sort of distance tyrannical. It wasn't distance that prevented use of rich-well watered Queensland

coasts while sheep grazing extended even into the dead heart of the continent. The distance of the forests of Tasmania from Melbourne was no tyranny but a source of the cheapest building material, even at boom prices.

Blainey gives us a useful assessment of the effects of refrigeration on the expansion of investment here but gets his emphasis wrong. He writes (p. 276) 'if Australia had lacked long inland railways the export would have been smaller'. This obscures the fact that butter and lamb and beef were shipped mainly from coastal regions. Refrigeration (not indexed as such) is basically a suspension of Time rather than a cancelling of distance and it was the cost not the flavour that mattered with preserved perishables. Again the theme of European-American innovations applies. By 1850 the trade there in natural ice was in millions of tons but it was the cost of this in inland and southern regions that made mechanical refrigeration pay. In the United States at least the crucial demand for it was from breweries and hospitals — for drink and drugs not cheaper luxury foods.

As the cheapening of reliable processes for these demands was established, their application to freezing transport cargoes by railway or ship attracted investors. The scale on which this occurred in America was vast but again the gains that came to Australians from the exports of perishable food were relatively greater than those from northern countries. This came partly because the exports served those markets in their off-season. Nevertheless it is another case of northern innovations paying relatively bigger dividends in the southern hemisphere by giving greater scope to the vast undeveloped land resources — through arresting the 'tyranny' of Time.

Still, distance and the application of transport devices are dominant facts of our history, which help to explain why we are what we are, and this is a refreshing change from analyses which explain us to the world as victims of chance and circumstance and of fatal flaws in character of prominent men. When historians write 'It is curious that' they imply that they are unable or unwilling to seek causes. It is even worse when they ask readers to accept their guess as to what would have happened if something or other had not been true.

Australian society was and still is an extension of a profit seeking civilisation whose business men here found more extensive applications for their capital equipment. We find at all times local adaptions of European equipment and methods such as stump-jump ploughs and header harvesters but the cheap iron and steel for these was the product of European conditions. It was not distance that caused metal concentrates to be at grass until Europeans and Americans had worked out techniques of electrolytic refining which made it profitable to ship those concentrates of Broken Hill all the way to Europe.

We must look at many and diverse aspects of Australian and world conditions to find the causes of our growth but it is fatuous to seek for causes in the personalities of colonial governors and colonial officials, mere agents for the interests of their times. It is only by following such dominant

facts as distance (and the costs it imposed) along with the offsetting factors of the contemporary changes in the outside world that we can recreate our past.

Bibliographic Note :

The following books either are referred to in the article or provide data on some of its arguments:

O. E. Anderson, *Refrigeration in America,* Princeton, 1953; J. C. Beaglehole, introductions to *The Journal of Captain James Cook,* I, Cambridge, 1955, and II, Cambridge, 1961; J. Conrad, 'Geography and Some Explorers', *Last Essays,* London, 1926; G. H. Elliott, *European Lighthouse Systems,* London, 1875; J. Horsburgh, *India Directory,* 2 volumes, London, 1836; A. J. Villiers, *The Way of a Ship,* London, 1954.