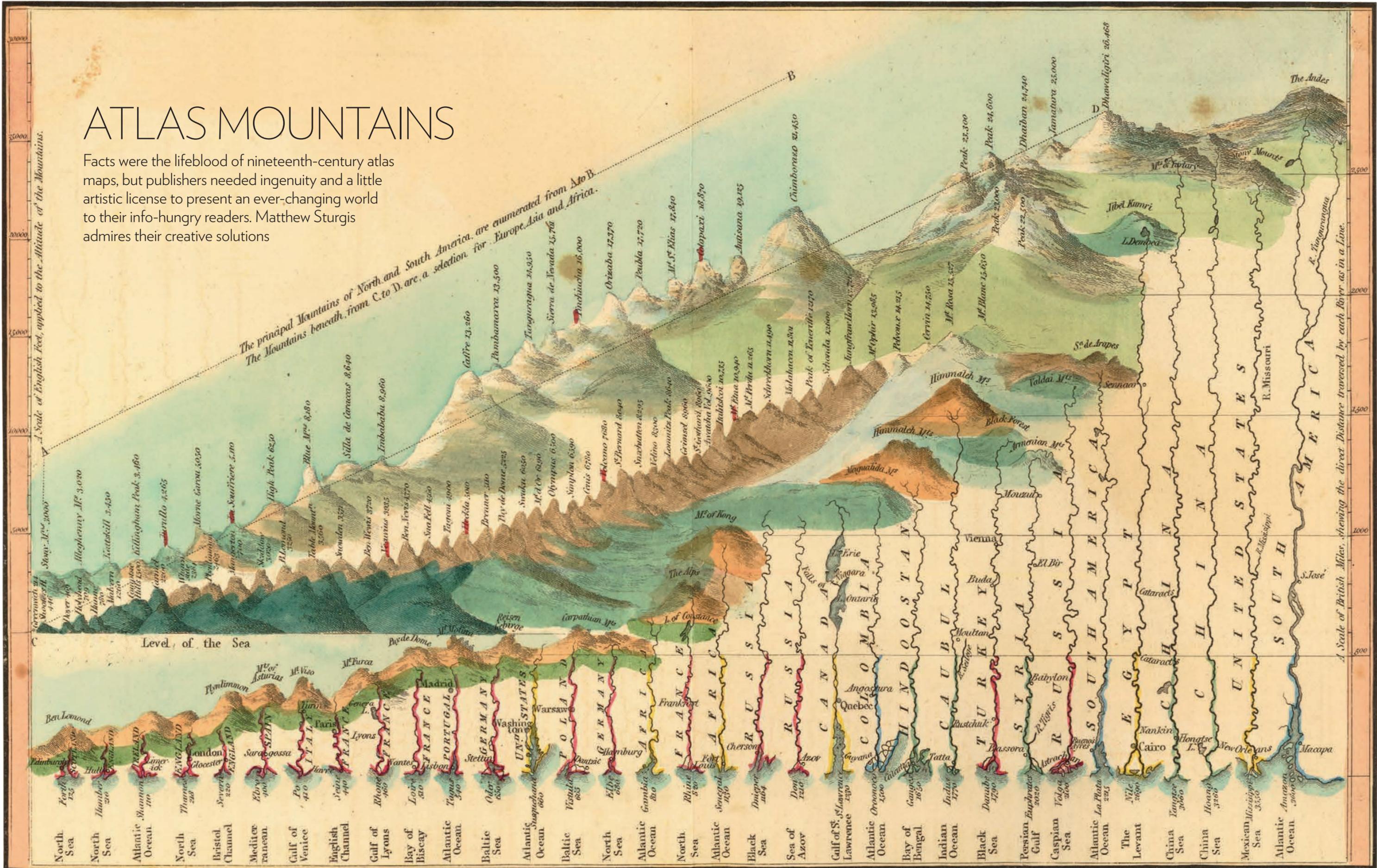


# ATLAS MOUNTAINS

Facts were the lifeblood of nineteenth-century atlas maps, but publishers needed ingenuity and a little artistic license to present an ever-changing world to their info-hungry readers. Matthew Sturgis admires their creative solutions



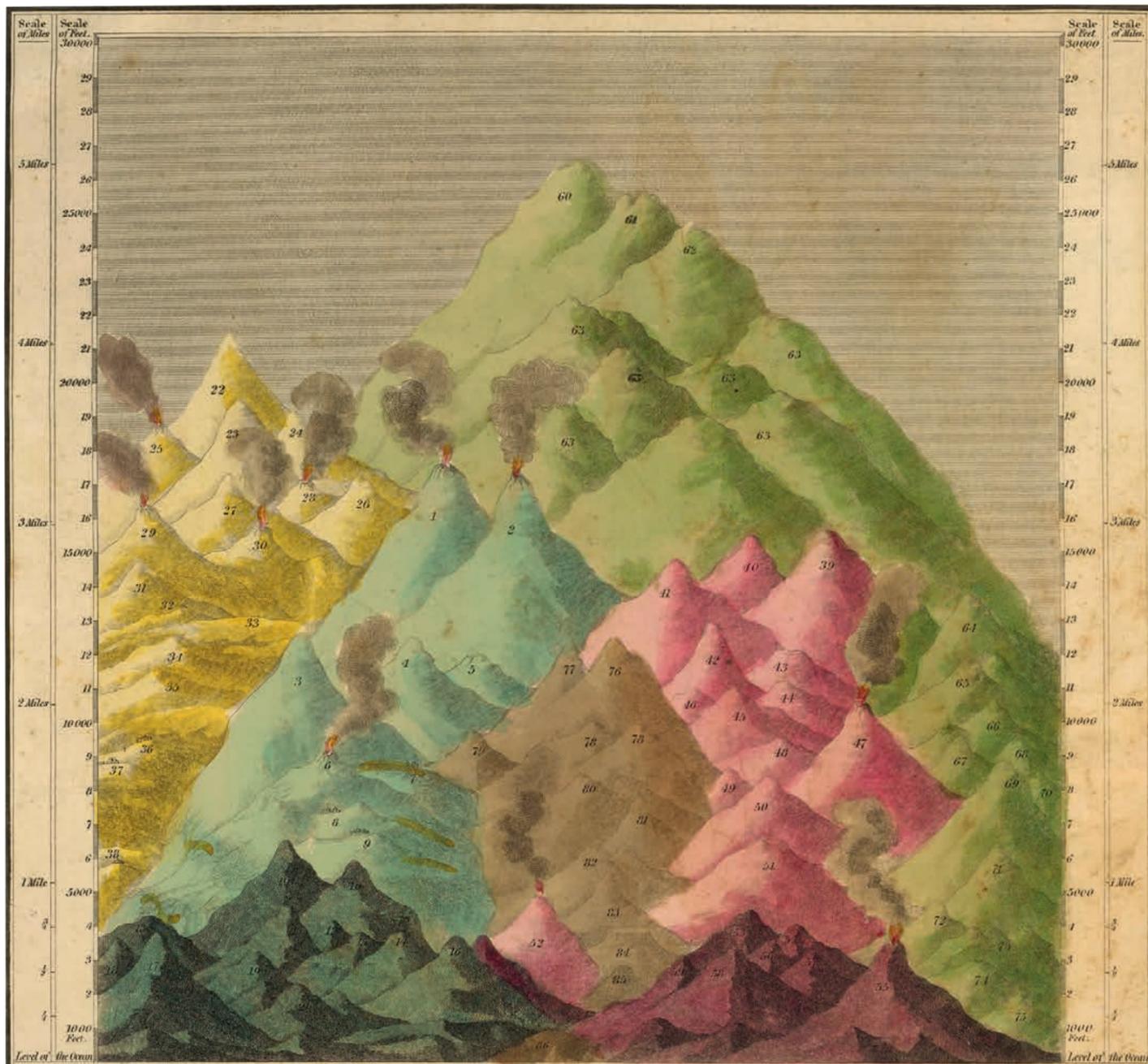


Table of the COMPARATIVE HEIGHTS of the PRINCIPAL MOUNTAINS &c. in the World.

REFERENCE.

N. AMERICA.		S. AMERICA.		EUROPE.		ASIA.		AFRICA.	
No.	Feet.	No.	Feet.	No.	Feet.	No.	Feet.	No.	Feet.
1 Popocatepetl	Mexico 17,710	22 Chimborazo Highest of the Andes	21,441	39 Mont Blanc Highest of the Alps	15,665	60 Dhanalgeri the highest of the Himalahs	26,482	76 Atlas M <sup>ts</sup>	Morocco 12,500
2 Orizaba	17,371	23 Discu Gavand	19,570	40 - Hosa	15,540	M <sup>ts</sup> & the highest in the World. Hind.	26,482	77 Peak of Teneriff	12,358
3 Mt. S. Elias	N.W. Coast 12,680	24 Antisana	19,149	41 - Ceryn	14,720	61 Yamulori a Peak of the Himalah M <sup>ts</sup>	23,300	78 Nevecht M <sup>ts</sup>	8,000
4 Langs Peak	Rocky M <sup>ts</sup> 12,500	25 Capapari	18,991	42 Seltrechhorn	13,000	62 Thabita	21,740	79 Gross Aharie	Loi Bourbon 9,600
5 Janes's do.	12,000	26 El Altar	17,256	43 Glockner	Germany 12,130	63 Interior summits of the Himalahs	24,740	80 M <sup>ts</sup> of Gondar	Abyssinia 8,450
6 Volcano de Colima	Mexico 9,186	27 Binissa	17,230	44 Picada Highest of the Pyrenes	11,265	M <sup>ts</sup> varying from 24,500 to	19,000	81 M <sup>ts</sup> Toravita	7,600
7 City of Volcan	8,808	28 Sangai	17,136	45 S. Bernard	11,000	64 M <sup>ts</sup> of Sumatra	13,800	82 Schureberg M <sup>ts</sup>	S. Africa 6,300
8 - Mexico	7,470	29 Turapaguana	16,500	46 Sionpion	11,000	65 M <sup>ts</sup> of Armenia	12,000	83 Kamberg	5,644
9 - Durango	6,847	30 Pichinea	15,939	47 Pina	10,700	66 Mtai M <sup>ts</sup> highest peak	Russia 10,700	84 Table M <sup>t</sup>	3,331
10 White M <sup>ts</sup> Highest Peak	N. Hamp. 6,634	31 El Corazon	14,790	48 S. Gothard	Switzerland 9,500	67 Avatiba	Kamtchatka 9,600	85 Diana's Peak	Loi S. Helena 2,100
11 Mooschillock	4,636	32 Farm House of Antisana the highest	17,230	49 Lemaux	Hungary 8,640	68 Libanon	Palestine 9,553	86 The principal Pyramid	Egypt 500
12 Mamfeld M <sup>t</sup>	Ver. 4,279	inhabited spot in the World	15,434	50 Velino Highest of the Apennines	8,387	69 Hermon	8,949		
13 Canals Ramp	4,188	33 Plain of Assuan	13,123	51 Olympus	Greece 6,500	70 Gede	Loi Java 8,300		
14 Saddle Back	Mass. 4,000	34 Bonerum	12,652	52 Hecla	Iceland 5,600	71 Peak of Quindipert	6,400		
15 Table M <sup>t</sup>	S. Car. 4,000	35 Mines of Chota	11,562	53 Ben Nevis	Scotland 4,307	72 Peak of Quindipert	Russia 4,900		
16 Peaks of Otter	Vir. 3,953	36 City of Quito	9,514	54 Ben Lomond	4,013	73 Chantz	Hindooistan 4,000		
17 Round Top	N. York 3,804	37 Santa Fe de Bogota	8,264	55 Vesuvius	Naples 3,739	74 M <sup>t</sup> Tiber	Palestine 3,000		
18 High Peak	3,718	38 Popayan	5,905	56 Snowden	Wales 3,571	75 M <sup>t</sup> Carmel	2,000		
19 Grand Monachock	N. Hamp. 3,234			57 Macgillivuddy's Rocks	Ireland 3,404				
20 Allegheny M <sup>ts</sup> average height	2,400			58 Prossell	England 3,390				
21 Blue M <sup>t</sup>	Conn. 1,900			59 Skiddaw	3,175				

Reference to the Colours

The M <sup>ts</sup> of N. America are coloured	Blue
S. America	Yellow
Europe	Red
Asia	Green
Africa	Brown

We live in an age of graphics. Everywhere signs and symbols assail us. We are too busy to read and there is too much information to process, so things get packaged up in pictures – in pie charts, graphs, bar charts, word clouds, timelines, and flow diagrams.

From the weather map to the share-price graph, such devices have become familiar in newspapers and on television. Once static and formal, they have, with the advent of the computer, grown ever more febrile. Pictures no longer sit still: they grow and morph and merge. And you never know where they are going to appear next: they pop up on your smartphone, race across billboards, and jiggle on your iPad screen.

Info-graphics, of course, are not a new phenomenon. Indeed, the notion of putting information into visual form is as old as civilization itself. The cave paintings of Lascaux are info-graphics of a sort. And the earliest forms of written communication used pictograms rather than letters. The idea, though, of condensing a mass of

complex data into a succinct visual form really belongs to the late eighteenth and early nineteenth centuries. The enthusiasm of the new industrial age for both order and facts produced a spectacular array of graphic responses as the wonders of the physical world were first discovered and then codified and ordered.

Among the finest – and most characteristic – productions of the period are the charts produced to display the range of the earth's recently measured geographical wonders: the relative height of the world's mountains; the varying lengths of the world's rivers. These are extraordinary documents, as much works of art as works of science, ingeniously and variously conceived and often very beautiful.

In some of these charts the mountains are all bunched closely together, piled up, like some wonderful jelly mold. In others, the world's great peaks are strung out in order across the page in a great diagonal, like some long mountain range, gradually shelving down from the very highest to the not quite so high. Or else they are artfully arranged into a fantastical landscape, the great mountains of the Western Hemisphere gathered on the left-hand side of the page, the highest peaks of the Eastern Hemisphere on the right, the puny Alps acting as foothills to the majestic Himalayas.

Mountains, of course, look good in simplified illustrations. They have dramatic triangular silhouettes; they are readily colored and shaded. Active volcanoes can be adorned with wisps of smoke, peaks can be capped with snow. Against these bold pictorial forms the schematic representations of the rivers tend to look rather less impressive. Little more than single lines, straightened out, their mouths aligned at the top or bottom of the page, they often resemble so many rats' tails.

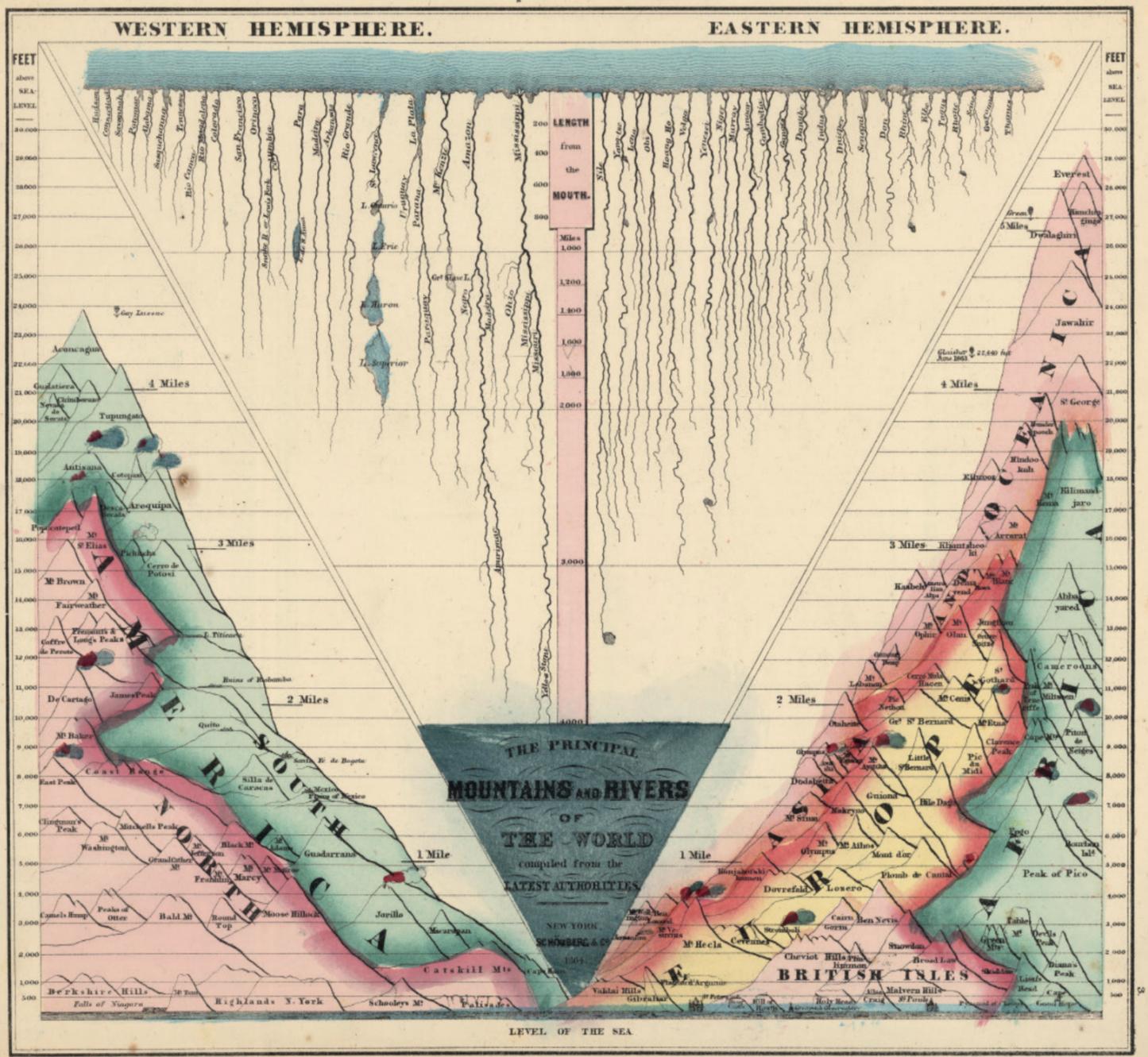
To compensate for this deficiency the chartmakers became adept at arranging the rank of rivers into elegant patterns around the main mountain-part of their designs. If

MOUNTAINS, OF COURSE, LOOK GOOD IN SIMPLIFIED ILLUSTRATIONS. VOLCANOES CAN BE ADORNED WITH WISPS OF SMOKE, PEAKS CAN BE CAPPED WITH SNOW

a chart had disposed the mountains in a single rising diagonal, then the rivers could be lined up, vertically, to fill in the upper part of the chart – the longest rivers set against the shortest mountains and vice versa. Where the jelly-mold layout had been adopted, the rivers might frame the central mountain-mass like a fringed pelmet, the longest rivers running down the outside edge of the page, gradually reducing in length as they reached the center and the highest peaks of the mountains. Although mountains and rivers are the most easily quantifiable elements of geography, and the most commonly featured in specialized charts, other natural features were sometimes added: the world's highest waterfalls, largest lakes, or biggest islands.

The absolutes of mountain height, river length, and lake or island area were of course the main facts conveyed in these charts. But there was always scope for some additional information. Charles Smith's *Comprehensive View of the Heights of the*

Previous pages: an engraved and hand-colored illustration created for a library atlas of modern and ancient geography, London, 1835. Left: an updated 1845 print from Henry Tanner's atlas, first published in 1836, *Table of the Comparative Heights of the Principal Mountains &c. in the World*. The mountains are identified by a number and a key and are color-coded by continent. The chart was written and engraved by Joseph Perkins



*Principal Mountains &c. In the World*, which was published in London in 1816, concentrated mainly on the great peaks of the Andes and the Alps but included several interesting asides. The height of Chimborazo (then thought to be “The Highest of the Andes”) was given as 21,470 feet; against 21,000 feet was the note “The Condor frequently soars to this Height”; while 19,400 feet was given as “The Height attained by Messers Humboldt and Bonpland on 23 June 1802” during their attempted ascent of Chimborazo. (It was then the world record.) And 18,225 feet was marked as the “Highest Limit of Lichen Plants.”

Publishers would seek to give their charts an added appeal by slanting information toward the likely audience. American-produced charts tend to give the height of Washington as well as other notable U.S. cities and even the “Shot Tower at Philadelphia” (184 feet). British-produced charts are likely to note the height above sea level of the Greenwich Observatory (214 feet) and of “London – at St. Paul’s” (65 feet). The handsome chart produced by J. Andriveau-Goujon in France in 1850 included the fact that 7,000 meters (nearly 23,000 feet)



was the height reached by Joseph Louis Gay-Lussac’s hot air balloon, remarking complacently, “C’est le point le plus haut ou l’homme soit parvenu” (It is the highest point ever reached by man).

Biblical history and classical mythology were also acknowledged by chartmakers. Henry Tanner’s hugely popular comparative chart of the world’s highest mountains and longest rivers, first published in 1836 and reissued many times in the ensuing decades, included on its list of mountains, Mount Ararat (9,500 feet), Olympus (9,100 feet), and Mount Tabor (2,000 feet) – scene of Christ’s Transfiguration.

For a nineteenth-century audience most of the information in these maps was both new and exciting. Facts, facts, facts were the lifeblood of the period. Facts, though, are not stable. They are subject to change. One fact can trump another. New facts are always emerging. And throughout the nineteenth century they emerged at a great rate. It was an age of exploration and discovery, of new scientific methods and ambitious geographical surveys. The understanding of the world and its physical geography was in a state of almost constant flux.

In the late eighteenth century, it was generally thought that Chimborazo was the highest mountain in the world. In 1808, however, the great peak of Dhaulagiri in Nepal claimed this position, being measured at 26,262 feet. It was knocked off its perch 30 years later with the discovery that the Himalayan Kangchenjunga was higher. And it was only in 1856, following the Great Trigonometric Survey of British India by Sir George Everest, that the mountain formerly known as Peak 15 of the Himalayas was recognized as the true top spot – at 29,029 feet – and later given its discoverer’s name.

Rivers, too, jostled for position. With all the difficulties of tracking a river to its source, with all the questions of tributaries, there was much scope for debate. Early charts tend to put either the Amazon or the Mississippi/Missouri first and rank the Nile about fifth. But, following the discovery of Lake Victoria as the source of the White Nile, it shot up the rankings to Number One.

Change, of course, was good news for publishers. It meant a new edition, a chance to try out new color-printing processes, and – of course – new sales. Even in the iPad age, everyone wanted an upgrade. ♦

This atlas map (above), entitled *Comparative Height of the Principal Mountains and other Elevations in the World*, was engraved by J. Cone and published in 1823 by Fielding Lucas, Jr., of Baltimore. By 1864, when the atlas map *The Principal Mountains and Rivers of the World compiled from the Latest Authorities* (left) was printed by Schonberg & Co., New York, the highest mountain in the world had been established as Everest, named after its discoverer

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