

# SCIENTIFIC AMERICAN

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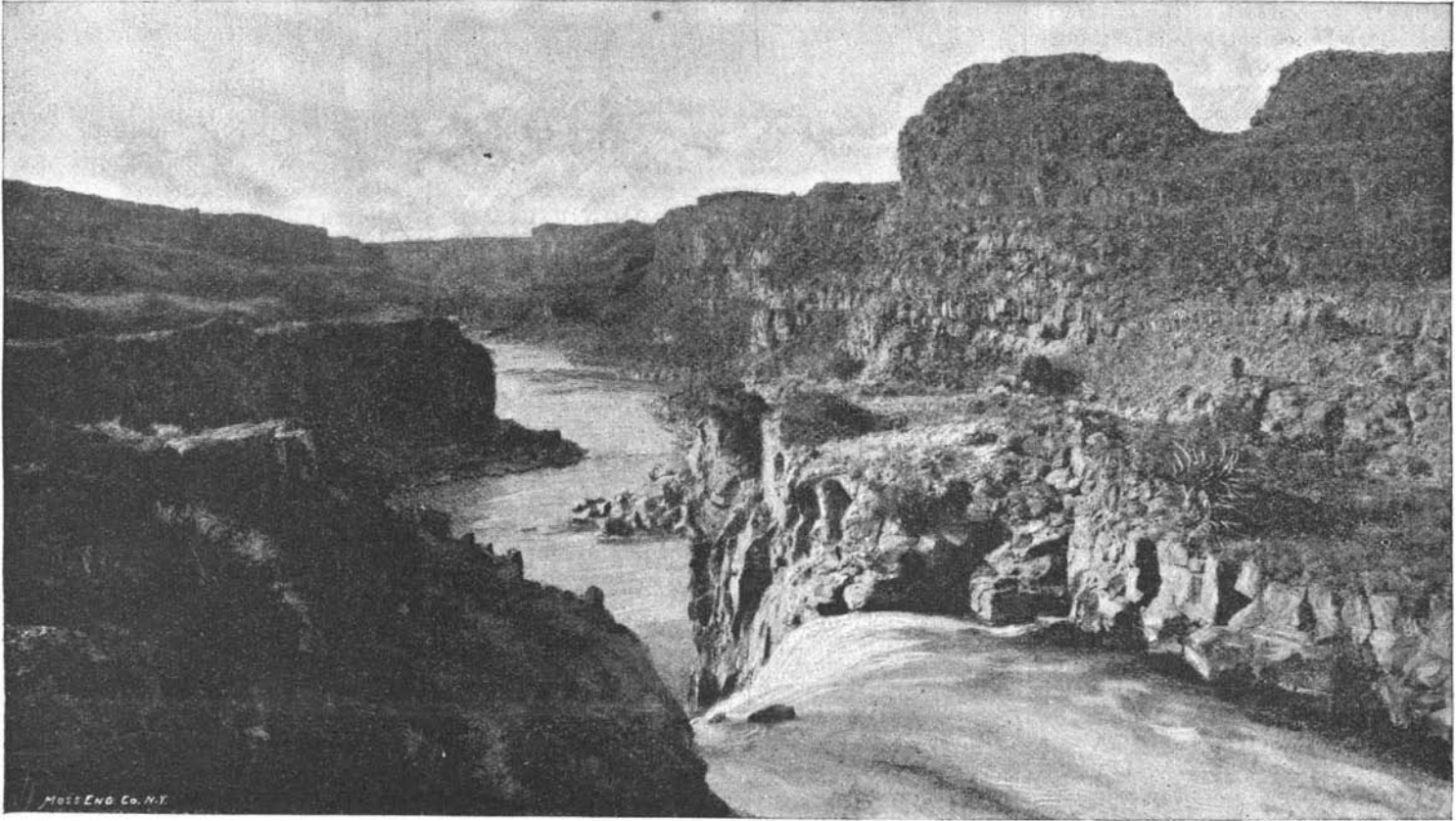
## BRIDAL VEIL FALLS, SNAKE RIVER.

Although the Columbia River is the most important of the great rivers emptying into the Pacific, the Snake River, its principal tributary, is probably the most remarkable of all the Western rivers. The Columbia River, owing to the fact that it is navigable for a distance of some 115 miles from its mouth, opens up the

heart of Oregon, and makes its inland towns accessible through the Pacific to all parts of the world. In the course of time serious obstructions that are found in the Columbia River at the Cascades and at the Dalles will doubtless be overcome, and it is probable that navigation will be possible throughout its course for several hundred miles. The Snake River is navigable

for some 180 miles above its point of juncture with the Columbia, although this stream is noted far more for its remarkable physical characteristics than for its commercial or utilitarian advantages.

The government is at present building a canal at the Cascades which will connect the Lower Columbia with 45 miles of navigable water above that point. This



BRIDAL VEIL FALLS FROM ABOVE THE FALLS.—[From a photograph by Towne.]



BRIDAL VEIL FALLS LOOKING UP SNAKE RIVER.—[From a photograph by Towne.]

would render the river navigable as far as the town of the Dalles. This work is well under way, and will be of great importance in developing the Upper Columbia.

Surveys have been made above the Dalles with a view of conducting a similar work at this point, and thus connecting, by means of locks, the Upper and Lower Columbia.

The Upper Snake River, however, is one of the most remarkable streams with which we are familiar. It offers an absolutely impassable barrier between North-eastern Oregon and Idaho.

An Important Electric Lighting Suit.

On May 21, 22, and 23, at Pittsburg, Pa., before Justices Bradley and McKeenan, the final hearing in a suit brought to test the right to the modern incandescent lamp occurred.

Successful Trial of the Second Otis Elevator at the Eiffel Tower.

The official trial of the second Otis elevator in the south pillar of the Eiffel tower was successfully carried out on June 8, in the presence of M. Alphan, M. Eiffel, and the Lift Committee.

The Joint Snake.

A correspondent sends us an account of a joint snake he with other school children encountered about twenty years ago, and he asks whether the existence of such a snake is denied.

The so-called joint snake, or "glass snake," is known to herpetologists as the snake-lizard (Ophisaurus ventralis). For description and figure, see SCIENTIFIC AMERICAN, Vol. 57, No. 10, page 152 (September 3, 1887).

C. FEW SEISS.

WHEN two or more colors are used, it is necessary to keep in mind the laws governing the combination of colors. All colors in combination are beautiful, provided only that the combination is artistically managed.

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NEW YORK, SATURDAY, JULY 6, 1889.

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THE WATER SUPPLY FOR NEW YORK CITY.

In the course of municipal growth, New York should absorb her suburbs in the order of their coming. This is the ideal conception of urban expansion; but if by order we mean regularity of position, we find that New Jersey and Connecticut already possess more than half of the neighboring territory which rightly belongs to the metropolitan area, and that Brooklyn will credit to herself the townships of Long Island, from mere proximity.

In the narrow tract extending north along the Hudson, we must, therefore, find the districts to be acquired in succession, one beyond the other. There is some likelihood even of this section becoming still narrower and partially unfit for occupation, for, as is well known, the supply of water for the city has been gathered here for fifty years, and work is progressing within the same limits to double the volume gathered and delivered.

A comparison is here made between the three hundred and sixty square miles comprising the drainage area of the Croton river and forty-five hundred square miles of other suburban country in New Jersey, Connecticut, and New York.

Like all studies based upon the results of the various censuses, this one is full of surprises, and brings in strong contrast the errors of imaginative opinion and the rulings of fact. The density of population in the Croton valley is first noticed to be relatively low, then to show an actual decrease—both in spite of the fact that thirty years ago the density was normal and the growth rapid.

So marked is the retardation in the whole basin, that the period of doubling in population is one hundred years longer than that of any division under consideration. Attention is also drawn to the lack of increase in the assessed valuation of property. The proof of actual retardation unaccompanied by an increase of valuation brings forward an inquiry as to the right exercised under the acts of the legislature of taking small areas for storage purposes and at the same time injuring large tracts.

The land so far condemned is insignificant in area as compared with that injuriously affected by such appropriation. To say that the working of the law is justifiable is a misinterpretation of the principle of eminent domain, while to claim that the city should buy every acre of the watershed is preposterous, since the city will soon have to go elsewhere for an adequate supply.

The deduction to be made from the tables and statements given is that the prosecution of the work has had a perceptible and measurable effect in preventing immigration and the increase of taxable property. The importance of this result as a lesson for the future can be understood when we say that the present storage capacity must be increased threefold before the supply of water can be doubled.

After showing the obvious detriment of water storage to regions which in the natural course of events should be occupied by homes, Mr. Parrott applies the data of recent census enumerations to some of the watersheds of the Catskill mountains, and points out a decrease of inhabitants here also, but from a very different cause.

The reference to the Catskills strengthens the criticism very materially, inasmuch as it makes the present expenditure of the Croton aqueduct department inexcusable on the score of necessity.

Trade Mark—Firm Name.

The English Court of Appeal has rendered a decision of interest in a case involving the right of a man to the use of his own name in business. The case was that of Turton et al. vs. Turton et al. The principal appellant had for a considerable time carried on the business of a steel roller and steel manufacturer in Sheffield under the title of "John Turton & Co."

Worsted and Woollens.

The question is asked, what is the difference between worsted cloth and woolen cloth? The answer is: Worsted goods are composed of wool that has been carded and combed, while woolen goods are made of wool that has been carded but not combed.