line, however, to achieve something which will be instantly telegraphed all over the world. This she accomplished at Portsmouth in England. For the day of her arrival there to fill a week's engagement a public reception had been arranged. At the Portsmouth Town Hall waited the Mayor in his chair of office, the Aldermen in their robes, their ladies and other gentlemen and ladies in the gorgeous apparel befitting so notable an occasion. The stairs of the Portsmouth Town Hall rise from the street to the height of the second floor and are somewhat terrifying to the weary.

When Sarah arrived there in her carriage she glanced at the stairs, threw up her hands in horror and said: 'My Creator! I can never climb them! Drive home!" The Mayor and his party were furious, the Portsmouth engagement did not greatly suffer, and the wires of all England and of all the world told how Sarah Bernhardt had snubbed an English Mayor.

Sarah in Canada

WE have recently heard how she was insulted by a mob in Canada, how the press was aggrieved and how a Prime Minister apologized to her by telegraph on behalf of his country. How much truth there was in all this—excepting the telegram—has not been definitely determined, but that her press agent was there or thereabouts throughout the whole proceeding is established by undeniable evidence. The great journals of England have written editorials on the fact that American conditions are so extraordinary that she would be compelled to play a portion of her performances here in canvas tents. This entire country has heard the same story. But where did that canvas tent ever exist except in the brain of a press agent?

A Careless Manager

HOW was it that a sympathetic young Japanese was so carried away by the dramatic potency of "The Darling of the Gods" that he leaped upon the stage and, beside himself with rage, engaged the villain in a hand-to-hand conflict? Was he seized by the stage-hands and hustled into the wings? Were policemen near at hand to arrest him and lock him up? Did this interesting work of the press agent escape the press? It did not. The funniest part of this story was that the agent, who it is said, contracted not only to pay him fifty dollars for the performance, but also to bail him out when arrested, forgot the latter part of his agreement and the disturber remained in custody all night; calling for an appreciable augmentation, it is said, of the original price.

The man who traveled ahead of the late John T. Raymond once arrived in Cleveland, Ohio, at the height of the election period. The theaters were empty and the thoughts of the public were fixed upon the American citizen's right of suffrage and the portentous issues of the hour. Did the agent despair? Not at all. He took several drinks and solved the problem. He engaged the two crack political clubs for a public marching and drill competition, promising refreshments and a valuable prize. All the other clubs talked of it. So also did everybody else.

On the Saturday night preceding the Monday opening the march and drill took place. Incidentally the procession, which included hundreds of young men and was headed by a band, was terminated by a showy carriage carrying a magnificent banner inscribed: "John T. Raymond, 'For Congress,' Euclid Avenue Opera House, Monday Night." "For Congress" was the name of Raymond's play. The procession, marching past a mass-meeting, drew thousands from this assemblage to festivities in which the name of Raymond was not unheard.

Raymond in Politics

RAYMOND, arriving next day and hearing of this, said: "Outrageous! I am a legitimate actor. You have killed me!" When, however, he played to the biggest week's business he had ever known in Cleveland he gave the agent a diamond scarf-pin!

The devices are numberless and their originality is due to the exigencies of the situation. Conservative managers frown them down, but none of them is averse at heart to the wide publicity and the free advertising which they bring. The public reads a new story of this kind every week, and whatever the editors may think or believe, their readers rarely suspect the press agent's pen.

St. Louis was once afflicted with a plague of cats. In a speeding horde they overran the main thoroughfares, madly pursued by dogs and small boys dash-

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EXPLORING THE UPPER AIR

By René Bache

THE Weather Bureau is about to engage in the exploration of regions of the atmosphere as yet unapproached—regions, that is to say, far higher than have been invaded up to the present time by any means known to man.

The agency to be employed is novel in character—a species of balloon made out of rubber, like the familiar child's toy, but strong as possible and about six feet in diameter. It carries self-recording instruments in a little basket. As it goes up, it expands, owing to the lessening density of the atmosphere in which it floats, and in this way, owing to the increase in the area of its interior surface, the pressure is equalized. Finally, however, it bursts and turns into a parachute, which lowers the basket and its contents to the ground.

It is believed that such balloons can be made to attain an elevation of twenty miles, and it is proposed to liberate them at frequent intervals simultaneously from many of the weather-stations in different parts of the country. One of the instruments used will be a barometer that makes an automatic record, and this will show exactly what height was reached when the apparatus went to pieces. Other instruments will register the temperature and percentage of moisture in the air, the object in view, in a general way, being to ascertain the condition of the atmosphere at various levels for every day in the year, especially during the passage of storms and cold waves.

Human beings cannot possibly ascend to such heights and survive, for which reason only balloons can be employed for the purpose, carrying self-recording instruments. One of these, which is a combination of barometer and thermometer, registers the exact temperature for each level reached, indicating the degrees of increasing cold by drawing a line upon a sheet of paper. Experiments already made have shown that as one ascends through the atmosphere the temperature falls at the rate of seventeen degrees Fahrenheit to the mile. At twenty-five miles above the earth it is two hundred degrees below zero, presumably, and twenty-five miles higher it cannot be far from the absolute zero of outer space, four hundred and sixty-one degrees below the zero of Fahrenheit.

The density of the air is halved for each three miles of ascent, and this it is that makes the difficulty in ballooning at high levels. Coxwell and Glaisher, on the occasion of their famous ascent of 1862, reached an elevation of twenty-nine thousand feet, but both of them became unconscious. This was not far from the level of the loftiest clouds, which are supposed to be composed of snowflakes or ice-crystals. The feat was nearly equaled three years later by three Frenchmen, two of whom died for lack of air; and was even excelled by Berson, another daring aeronaut, in 1893, who made a record of nearly six miles, taking a tank of oxygen along with him and inhaling it.

It is also purposed by the Weather Bureau to undertake the flying of kites under new conditions and after new methods. They are to be flown from ships on the ocean—a decidedly interesting idea, when one comes to think of it. The small boy flies his kite by running in this direction or that, according to the way the wind blows. A scientific kite of the modern pattern, on the other hand, is raised ordinarily from a point that is stationary, the reel and other apparatus employed being fixed in one place. But when the requisite appliances are placed on board of a steamboat, the latter can move in any direction; and there is the further advantage, from the viewpoint of the meteorological investigator, that the air-currents are unbroken by hills, buildings or other obstacles.

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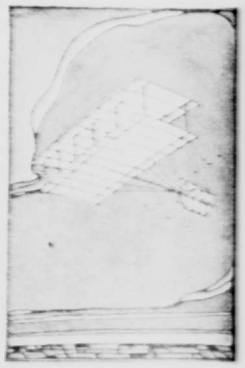
When, a dozen years ago, the first attempts were made to utilize cellular kites for meteorological purposes—the chief object in view being to employ them for carrying self-recording instruments aloft—one mile was the highest flight accomplished, though it was hoped that two miles might be attained. Since then such kites have been raised to an elevation of four miles above the surface of the earth. Although the air far aloft is comparatively thin, it moves so much faster—that is to say, the breeze is so much stronger—that it supports the kite as well as does the denser atmosphere lower down.

The string of the scientific kite is a wire, and experience has shown that the best thing for the purpose is piano-wire, such as is used for deep-sea sounding. When the kite is in the air, the wire draws a steady current of electricity from aloft, which has actually been applied, for curiosity's sake, for turning the wheels of a small pasteboard machine. If a storm comes up, or clouds approach, the amount of the fluid delivered at the lower end of the wire is much increased—so much, in fact, that the kite-flyer might be in some danger if he did not take care.

Immense quantities of electricity seem to be stored in the higher levels of the atmosphere, but under what conditions nobody can say. In fact, our knowledge on this point amounts to almost nothing at all. To a great extent the upper air is as yet a mystery. It is a fluid ocean, fifty or perhaps one hundred miles deep, on the bottom of which we crawl around, much as the abyssal fishes wander over the floor of the sea. Half of its entire mass is below the three-mile level, and its density, as one ascends through it, diminishes so fast that at an elevation of ten miles it is only one-ninth of what it is at the surface of the earth.

Human beings cannot live for any length of time at an elevation of more than four miles above the level of the sea—for which reason the peaks of some of the highest mountains will remain forever untrodden by the foot of man.



Mount Everest, for example, in the Himalayas, is twenty-nine thousand feet in height, or about five and a half miles. The hardiest and most adventurous mountaineer will never approach its top, which is loftier by a full mile than the summit of Pioneer Peak, the successful ascent of which, in 1892, by W. M. Conway, marks the record achievement in this line up to date.

The point attained by Conway, twenty-three thousand feet above sea-level, was the highest ever reached by land. In the Austrian Alps is the highest permanently occupied observatory, the Sonnblick, at an elevation of ten thousand one hundred and sixty feet. The highest inhabited place is the convent of Hanlé, in Tibet, fifteen thousand five hundred feet above the sea; and next comes the village of San Vicente, in the Bolivian Andes, at fifteen thousand feet. At such altitudes the density of the air is only about one-half of the normal, and the supply of oxygen so insufficient that the people are weakly and in poor condition physically.

A free balloon, called the Cirrus, sent up from Berlin a few years ago, with a basket containing a thermometer and barometer, reached an elevation of eleven and a half miles. The temperature recorded at that altitude was seventy-five degrees below zero. It is expected that the new balloons of the Weather Bureau will go far higher, and they will be liberated, as already stated, in considerable numbers and in a systematic way. By their aid knowledge will be gained which, it is hoped, will enable meteorologists to forecast the weather with much greater accuracy than is now possible.

Our Weather Bureau leads the world in meteorological investigation, and its chief, Professor Willis L. Moore, has already done a great deal for the advancement of this important branch of science. He is pushing ahead along lines suggested by new ideas of his own, and on him partly rests the expectation that in the near future some definite knowledge will be obtained in regard to the upper levels of the atmosphere—a region far more inviting to the explorer than the Arctic, and promising results of much greater practical usefulness to the discoverer of its secrets.