

Correspondence.

The Naming of Warships.

To the Editor of the SCIENTIFIC AMERICAN:

Referring to the communication of Capt. Pickering of date of March 10, in regard to the naming of vessels of the United States navy, permit me to state the exact situation of the matter:

Congress, act May 4, 1898, provided "That hereafter all first-class battleships and monitors owned by the United States shall be named for the States." This is the provision that gave the names of States to the Arkansas class of monitors recently completed.

By the act of March 3, 1901, the President is given the power to establish the classification of the vessels of the navy, and the old classification by gun strength gave place under order of June 8, 1901, to a classification by tonnage. First-rates are men-of-war of 8,000 tons and above, thus including armored cruisers, which, until recent increases in battleship tonnage, differed only from battleships by the relative proportions of speed and armament.

The names of States in the navy list appear as follows:

Commissioned: Battleships, first class, "Alabama," "Illinois," "Indiana," "Iowa," "Kentucky," "Maine," "Massachusetts," "Oregon," "Wisconsin." Battleship, second class, "Texas." Armored cruiser, "New York." Total, 11,

Building: Battleships, "Connecticut," "Georgia," "Louisiana," "Missouri," "Nebraska," "New Jersey," "Ohio," "Rhode Island," "Virginia." Armored cruisers, "California," "Colorado," "Maryland," "Pennsylvania," "South Dakota," "Tennessee," "Washington," "West Virginia." Total, 17.

Monitors, "Arkansas," "Florida," "Nevada," "Wyoming." Total, 4.

Designations of ships authorized by last session of Congress, "Vermont," "Idaho," "Kansas," "Minnesota," "Mississippi." Total, 5.

"New Hampshire," wooden ship, useless.

"Michigan," service on Lake Erie.

Names of States not on navy list: "Delaware," "Montana," "North Carolina," "South Carolina," "North Dakota," "Utah." Total, 6.

RECAPITULATION.

Commission	11
Building	17
Monitors	4
Designations	5
Useless	1
On lake	1
Available for designation	6
	45

H. C. GAUSS.

Navy Department, Washington, D. C., April 2, 1903.

Imitating the Flight of Birds.

To the Editor of the SCIENTIFIC AMERICAN:

I have read with great interest Dr. T. B. Collins' paper describing his researches on the mechanics of a bird's flight.

It seems profitable to suggest, however, to those who may address themselves seriously to the problem of mechanical flight, that if we consider the other methods of locomotion in which man has attained a certain degree of success, we can hardly expect to solve it by attempting to imitate the mechanism of a bird's wing. It will doubtless be found that nature's flying machines, like her walking, running, and swimming machines, are far too complicated and delicately constructed for imitation with means now at our command.

It is amusing to note that, with all our boasted proficiency in mechanics and chemistry, if we consider animal life merely as machines, these machines are not only unapproachable in efficiency, but man had to take a long kindergarten course in these two branches before he recognized in these designs the application of very simple principles.

The study of the flight of birds may give valuable results in demonstrating how such flight is accomplished; and when these principles are known, we may, with our cruder materials of steel and canvas, find a way to apply them after our own rude fashion; but if the first successful flying machine has beating wings, its development will form a notable contrast to the past history of applied mechanics.

Ferguson, B. C., April 4, 1903. D. G. EATON.

The Death of Paul B. Du Chaillu.

Paul B. Du Chaillu, the American author and explorer, stricken with partial paralysis, died at midnight on April 30.

Paul Belloni Du Chaillu was the center of a fierce controversy forty and fifty years ago, when his stories of life in Central Africa, and his discovery of the gorilla, since confirmed, were denounced as gross exaggerations, if not absolute lies. He never fully overcame the effects of this defanation and vilification,

and although he lived to enjoy many honors, he did not reap the full reward due to his achievements. Born in New Orleans in 1838, he was early taken to Africa by his father, who held a consular appointment in the Gaboon. In 1852 he published a series of newspaper articles about the Gaboon country which attracted much attention. In 1855 he returned to the West Coast of Africa. Unaccompanied by any white man, he traveled a distance of 8,000 miles in a practically unknown country. He killed and stuffed 2,000 birds, including many new species, and many gorillas, of which he brought the first accounts to Europe. It was his vivid and eloquent description of these huge and ferocious apes that excited incredulity. For a long time the name of Du Chaillu was supposed by many to be equivalent to that of Ananias. It is only right to add that his reports were never doubted by the friends who knew his probity and his adventurous disposition.

In 1859 he returned to New York, bringing with him a most valuable collection of natural specimens, native arms and implements, etc., many of which found their way finally to the British Museum. Two years later he published his "Exploration and Adventure in Equatorial Africa." The accuracy of many of his statements was again assailed, Prof. Gray of the British Museum being one of his bitterest critics, while Prof. Owen and Sir Roderick Murchison defended him.

After spending some time in the United States, where he was in great request as a lecturer, he paid an extended visit to Sweden, Norway, Lapland, and Finland, the fruits of which were manifested in his books, "The Land of the Midnight Sun," "Ivor the Viking," and "The Viking Age." He declared that the latter of these cost \$56,000 before it was published, the information in it being the result of the excavation of many hundreds of mounds on the coast of Norway.

Here is the account which he gave of his encounter with his first gorilla:

"Suddenly an immense gorilla advanced out of the wood straight toward us, and gave vent, as he came up, to a terrible howl of rage, as much as to say, 'I am tired of being pursued and will face you.'

"It was a lone male, the kind which are always the most ferocious. This fellow made the woods resound with his roar, which is really an awful sound, resembling the rolling and muttering of distant thunder. He was about twenty yards off when we first saw him. We at once gathered together, and I was about to take aim and bring him down where he stood when my most trusted man, Malaonen, stopped me, saying, in a whisper, 'Not time yet.'

"We stood, therefore, in silence, gun in hand. The gorilla looked at us for a moment or so out of his evil gray eyes, then beat his breast with his gigantic arms—and what arms he had!—then gave another howl of defiance and advanced upon us. How horrible he looked! I shall never forget it. Again he stopped, not more than fifteen yards away. Still Malaonen said, 'Not yet.' Good gracious! what is to become of us if our guns miss fire, or if we only wound the great beast?

"Again the gorilla made an advance upon us. Now he was not twelve yards off. I could see plainly his ferocious face. It was distorted with rage; his huge teeth were ground against each other, so that we could hear the sound; the skin of the forehead was drawn forward and back rapidly, which made his hair move up and down and gave a truly devilish expression to his hideous face. Once more the most horrible monster ever created by Almighty God gave a roar which seemed to shake the woods like thunder. I could really feel the earth trembling under my feet. The gorilla, looking us in the eye and beating his breast, advanced again.

"'Don't fire too soon,' said Malaonen; 'if you don't kill him, he will kill you.'

"This time he came within eight yards of us before he stopped. I was breathing fast with excitement as I watched the huge beast. Malaonen only said 'Steady,' as the gorilla came up. . . . When he stopped Malaonen said 'Now!' And before he could utter the roar for which he was opening his mouth, three musket balls were in his body. He fell dead almost without a struggle."

Dedication of the St. Louis Fair.

Notwithstanding the inclement weather, fully 300,000 persons witnessed the dedication ceremonies of the St. Louis Fair on April 30.

President Roosevelt and his escort led the column of the military parade. He was greeted with cheers, shouts, and the waving of hats and handkerchiefs. The military display was the finest ever witnessed in a time of peace in this country, 15,000 men being in line and all branches of the service being represented.

While the parade was all that the most enthusiastic could desire to see, it was the speech-making in the Liberal Arts Building that attracted most attention.

When Cardinal Gibbons concluded the invocation,

President Francis introduced Thomas H. Carter of Montana, president of the National Commission, who delivered the opening address.

After the rendering of "The Heavens Proclaiming" by a grand chorus of 1,000 trained voices, President Francis made an address in which he presented the building to the Exposition Company.

When President Francis introduced President Roosevelt the audience rose as one man and cheered and cheered again. The President said:

"This work of expansion was by far the greatest work of our people during the years that intervened between the adoption of the Constitution and the outbreak of the civil war. There were other questions of real moment and importance, and there were many which at the time seemed such to those engaged in answering them; but the greatest feat of our forefathers of those generations was the deed of the men who, with pack train or wagon train, on horseback, on foot, or by boat, pushed the frontiers ever westward.

"Never before had the world seen the kind of national expansion which gave our people all that part of the American continent lying west of the thirteen original States, the greatest landmark in which was the Louisiana Purchase. Our triumph in this process of expansion was indissolubly bound up with the success of our peculiar kind of federal government, and this success has been so complete that because of its very completeness we now sometimes fail to appreciate not only the all-importance, but the tremendous difficulty of the problem with which our nation was originally faced.

"When our forefathers joined to call into being this nation, they undertook a task for which there was but little encouraging precedent. The development of civilization from the earliest period seemed to show the truth of two propositions: In the first place, it had always proved exceedingly difficult to secure both freedom and strength in any government; and, in the second place, it had always proved well-nigh impossible for a nation to expand without either breaking up or becoming a centralized tyranny.

"We expanded by carving the wilderness into Territories, and out of these Territories building new States when once they had received as permanent settlers a sufficient number of our own people. Being a practical nation, we have never tried to force on any section of our new territory an unsuitable form of government merely because it was suitable for another section under different conditions. Of the territory covered by the Louisiana Purchase a portion was given statehood within a few years. Another portion has not been admitted to Statehood, although a century has elapsed—although doubtless it soon will be.

"Over by far the major part of the territory, however, our people spread in such numbers during the course of the nineteenth century that we were able to build up State after State, each with exactly the same complete local independence in all matters affecting purely its own domestic interests as in any of the original thirteen States—each owing the same absolute fealty to the union of all the States which each of the original thirteen States also owes—and finally each having the same proportional right to its share in shaping and directing the common policy of the Union which is possessed by any other State, whether of the original thirteen or not.

"This process now seems to us part of the natural order of things, but it was wholly unknown until our own people devised it. It seems to us a mere matter of course, a matter of elementary right and justice, that in the deliberations of the national representative bodies the representatives of a State which came into the Union but yesterday stand on a footing of exact and entire equality with those of the commonwealths whose sons once signed the Declaration of Independence. But this way of looking at the matter is purely modern, and in its origin purely American.

"This, then, is the great historic significance of the movement of continental expansion in which the Louisiana Purchase was the most striking single achievement. It stands out in marked relief even among the feats of a nation of pioneers, a nation whose people have from the beginning been picked out by a process of natural selection from among the most enterprising individuals of the nations of western Europe. The acquisition of the territory is a credit to the broad and far-sighted statesmanship of the great statesmen to whom it was immediately due, and, above all, to the aggressive and masterful character of the hardy pioneer folk to whose restless energy these statesmen gave expression and direction, whom they followed rather than led."

Ex-President Cleveland was then introduced by Senator Carter. Mr. Cleveland read his speech from manuscript.

At the conclusion of Mr. Cleveland's address "America," with full chorus and band accompaniment, was rendered. Prayer by Bishop Hendricks and benediction by the Rt. Rev. Henry C. Potter, brought the ceremonies to a close.