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DECLINE OF AMERICAN SEAMANSHIP.

The recent complaint of an American man-of-war's man that he was compelled to listen to the abuse of his own country while "laying out" on the royal yard, furnishes a curious picture for the contemplative. Nowhere, perhaps, is patriotism of more prime importance than aboard a warship. The crew must swear allegiance to the flag that floats above them, renounce all other allegiance, and be ready at a moment's notice to risk their lives in its defense. To insure anything like a patriotic ardor, a man-of-war's man must be native born. Yet the American warship is manned by foreigners, and it is not strange, therefore, that abuse of the flag should be heard in her tops. The fact is, under the conditions that exist, the American sailor, and his betters, are not to be found on the high seas, cannot be had in the "piping time of peace." He is animated by love of country and of adventure, and attracted by prize money. The dull routine of a warship in times of peace is distasteful to him, and the wages of $21.50 a month much less than the average American sailor can earn ashore. If he wants to go to sea, he can get $30 a month in the merchant service, though usually he has little trouble in getting a mate's berth. But even in this latter position the pay is now insignificant.

And so we have national ships which are American only abaft the mizzen mast; the Swede argues the North Sea fisheries question with the Hollander in the foc'sle, the Magyar combats Austrian unity with the Austrian in the dog watches, and the Irishman quarrels with the Englishman in the tops. No one seems to think of America outside of the wardroom and the cabin. Nor is this condition of things likely to be changed in the immediate future. Those who know the American sailor will incline to the belief that war only—a naval war—can bring him back to the navy, and high wages alone will serve to attract him to the merchant marine.

Native sailors may be said to be much the same as American capitalists and shipping merchants in one respect at least; they engage in what pays them best. The sailor finds that he can make more money ashore than he can at sea, and so he remains ashore; the capitalist gets a higher rate of interest in enterprises on the land, and will not therefore invest in shipping; the merchant finds transportation for his goods in foreign ships at a lower rate than he could afford to transport them himself, and so he builds no ships.

Competition in freights has of late years reduced rates to a minimum; fleets of ships are making little more their expenses, and within a few weeks Italian vessels—the closest sailed of all—have been reported as lying up rather than accept the rates offered.

Under these circumstances, the claims of those engaged in the new movement that subsidized vessels will, by being able to offer fair wages, attract the American sailor once more to the merchant marine, seem unfounded.

INSTINCTIVE CLAIM TO PROPERTY.

A manifestation of the feeling that a real title to property can exist and can be transmitted, and that it is worth a hard fight to maintain one's rights rather than be unjustly dispossessed, may seem perhaps a range of mental action beyond that which we should fairly expect to find among birds. But an instance which occurred under the writer's personal observation shows the feeling sharp and clear, and is worthy of record.

The place was at the Hot Springs of Partswick, in Mono County, Cal. The contending parties (and their successors) were a family on one side of California linnets (*Carpodacus familiaris*) and on the other of barn swallows. The linnets are permanent residents, while the swallows are migratory, and do not usually arrive from the south until the linnets have commenced nest building. In the present instance, a pair of linnets had just finished their nest, on a horizontal beam of one of the ranch houses, when a pair of swallows arrived, and for some reason—I cannot imagine what—decided to occupy the same spot. There was abundance of space on every hand, equally desirable, but that did not influence them, and a fierce conflict forthwith ensued. They attacked the linnets, and after several days of hard fighting drove them away, and at once proceeded to build their own nest *directly upon the linnets' nest.*

A linnet's nest is built of light materials—grass stems, roots, etc.—while a swallow's nest is built of mud. Of course the mud nest completely weighed down and flattened the light mass beneath it, almost hiding it from sight. The brood of young swallows was successfully reared, and departed in due season for Mexico and beyond.

In the ensuing spring a pair of linnets took possession of the strange object—the pile of grass below and mud above—and built their nest on its summit. There can be, I judge, no doubt that it was the same pair that had been so unjustly dispossessed the previous year. It seems impossible to believe that any others could have selected so strange a site for their nest; in their own case we may presently discern a reason. They had but just finished it when a pair of swallows appeared, and the events of the previous year were repeated—the battle, the defeat, and the completion of the fourth nest. And in the succeeding year this strange history was again worked out, and also in the year following, and it was then that the writer saw it. The resulting compound structure was a curious, and probably unique, rough column four to five inches in diameter, and perhaps twelve inches high. It consisted of eight nests, a linnet's and a swallow's alternately, and in the upper nest, the eighth, a barn swallow was sitting on her eggs as contentedly and happily as though she had not won her place and home by robbery and ruin.

It was an astonishing sight, and it was very suggestive as to the mental powers of those that had been engaged from year to year in its construction. In the first place, we have the question, Is the pairing of birds (as in our marriage contracts) a permanency? If it is so, an explanation of the events noted becomes easier, for both linnets would be equally outraged. If, on the other hand, their mating is only annual, as is commonly believed, the female would be naturally the one that would cling to the home. But in either event, the evidence is clear that the sense of justice was violated, the claim to property honestly possessed was trampled upon, and the resentment thus aroused rankled in the linnet mind through the entire year. No other motive could have existed for the building of the nest on that strange and inconvenient spot, the last year's swallow's nest. It could only have been for the purpose of seeking a partial satisfaction by maintaining the claim to that which had been lawfully their own.

The swallows, on the other hand, were robbers from the outset, and why should they in the second spring wish, at great waste of convenience, to repeat the robbery of the previous year? And assuming that their contract was for the year only, the mental processes and trains of thought by means of which the female was able to explain to her new partner the full history of the past, and to convince him that he must fight for his home before he could have it, involve a logical ability, a persistence of determination, and a command of language which are almost incredible.

And it must not be forgotten that all this was done over and over again, the second, third, and fourth year. If we cannot respect the swallows' morals, we certainly must admire the intellectual power displayed by each of the parties.

Chasing Screw Threads.

One of the oldest of methods of forming a screw was to start the thread by a single point cutter and finish with a chaser of several points or teeth. It has been conclusively proved by demonstrative tests that our operating—reproducing—screws in general use are defective in uniformity of pitch, and very accurate machinery and very careful methods have been built and introduced to remedy the defect. These means are quite expensive, and this expense has deterred some shop managers from adopting them. One of these mechanics, a thinking workman, has tried a reversion to an old method, with modern improvements. He claims that he can chase a thread with almost mathematical exactness, sufficient for the requirements of fine machinist work. His method is not peculiar, except in the care taken as to details. He uses a single point screw cutting tool to start and seat a thread, as is usually the method. Soon as the thread is defined, he puts in a chaser having perhaps six, eight, or ten threads, each of them a cutter, that is, each of them left sharp at the top. This is run squarely along the thread, the after teeth cutting or scraping something more than the leading tooth. This chaser forms the thread, but for a final finish he puts in a chasing tool only the first or forward tooth of which is a cutter, the others being merely followers and guides. With this arrangement he claims that the error of the first tool cutting may be rectified, or at least reduced, by the following teeth of the chaser, which have a bearing on six, eight, or more teeth simultaneously. Perhaps his theory is faulty, but it has been proved by experiment and practice that he has made an improvement on the ordinary method of screw-threading.

Paper Tiles.

A roof claimed to be superior to that of slate, because of its lightness and other advantages, is now made of any fibrous pulp. From this material tiles of any shape desired are formed by pressure under machinery, or by any other method which may suggest itself.

Pressed into the designs wished for, the pulp tiles are partially dried, previous to being subjected to a waterproof solution. Thoroughly impregnated with the preparation to resist moisture, they are baked to harden in them the waterproof mixture.

After the baking, the tiles are treated to a mixture imparting an enameled surface; to this is added a coating of sand, whereby the pulp is rendered proof against the action of heat or flame.

By the use of different colored sands a variety of tints may be imparted to the tiles, which, after the application of the enameling mixture and sand, are baked a second time, after which they are ready for use.