

## Correspondence.

## "The Largest Ship in the World."

To the Editor of the SCIENTIFIC AMERICAN :

In your issue of August 15 last, under the caption of "The Largest Ship in the World," you credit the vessel now building at the Vulcan shipyard, in Bredon, near Stettin, Germany, to the Hamburg-American line, whereas this steamer is being built for the North German Lloyd Steamship Company, of Bremen, Germany, for their service between Bremen, Southampton and New York.

In the interest of accuracy we would ask you to make the necessary correction in your next issue, and are, dear sir, yours very truly,  
OELRICHS & COMPANY.  
New York City.

## The Question of Stone Carving.

To the Editor of the SCIENTIFIC AMERICAN :

Under the heading of "Correspondence," in your issue of September 12, appeared an article entitled "Stone Carving: Where Should it be Done?" in which the writer presented clear and forcible reasons for believing that carving should not be executed on the banker, but on the stone after it is in place. Granting that the effect, considered from an artistic standpoint alone, is likely to be superior when the work is done on the placed stone, there are, nevertheless, it seems to me, good and sufficient reasons why carving at the quarry is to be preferred, especially if the finished design is to be subjected to the action of frost and rain. These reasons I shall now explain.

It is a well known fact that all stones are capable of absorbing considerable quantities of water. This is well shown in the following list, which indicates the percentage of water which may, under favorable circumstances, be absorbed by some of the common rocks of this country :

Granite.....	Beaver Bay, Minn.....	0.71 per cent.
Marble.....	Dorset, Vt.....	0.59 "
Gypsum.....	England.....	1.00 "
Limestone.....	Harrison County, Ind.....	3.70 "
Sandstone.....	Jordan, Minn.....	12.50 "

These figures indicate, as stated above, the amounts of water the rocks are capable of absorbing, but in nature, unless the rock is quarried from below the permanent water level, the amounts will be somewhat less. The water contained in the rock as it exists in the quarry (quarry water) usually, if not always, contains more or less mineral matter in solution. Now, if the quarried block is exposed to the atmosphere for any length of time, evaporation will take place on the exterior, the water from the interior will be drawn by capillarity to the surface and likewise evaporated, leaving the mineral matter which it contained as an extremely thin deposit which serves to bind together more firmly the superficial grains or crystals, the whole forming a surface more impervious to moisture and otherwise better able to withstand the action of the elements.

This crust, being once formed by the evaporation of the water, cannot, if destroyed, ever be reformed, and, therefore, if durability in a carving is desired, the work should be done at the quarry while the quarry water is still present. The crust would then form over the new surface, rendering it thereby much more durable.

If freshly quarried stone could be placed in its final position in a structure at once, and the carving done immediately, the objections mentioned would of course have no weight. Usually, however, months elapse between the time of quarrying and the placing of the stone, giving ample time for the formation of a crust. If the carving is now executed, the crust is destroyed and the prospect of the durability of the design greatly lessened.

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## The Dangers of Cycling.

Cycling, which was yesterday the fad of the few, is today the pastime of the many; it has brought wealth to the wayside town and village, has given a new industry to the country, and, by taking the place of more expensive forms of locomotion, has facilitated in various ways the carrying on of trade. But, unfortunately, this progress which has taken place well within a quarter of a century has been attended with the sacrifice of many lives and with numberless casualties, many of which have been very severe. With the advent of the motor cycle it is more than probable that the number of casualties from cycling will increase, in which case legislation will be called for. We should, however, be sorry to see so popular a pastime as cycling trammelled by legislative rules, and hope that the good sense of cyclists will prevent anything of the kind, if the dangers are pointed out and the remedies which they can themselves apply are suggested.

It is a noteworthy fact that in nearly every case where an accident has occurred, the cyclist has been riding for pleasure, and it is still further noteworthy that by far the larger percentage of accidents are attributable to recklessness or want of knowledge and skill in manipulating the machine. A prolific source of accident and one which seems to present an ever-recurring source of temptation to many cyclists is to see how

speedily they can sacrifice their lives in hilly ground. The moment the brow of a hill is reached the reckless cyclist seems impelled to take his feet from the pedals and to allow the machine to descend with all the rapidity which weight, gravity, and the gathering force give it. To the novice this is especially attractive, inasmuch as it gives him an opportunity of resting his tired muscles. Provided the rider has a straight and clear road, it is just possible that no accident may occur, but the story of casualties from this cause is invariably the same; the cyclist loses control over his machine and collides with some object, be it cart, hedge, or wall, with the resulting effect of death or severe injury. A good brake affixed to the back wheel of the machine would have the effect of considerably reducing the number of accidents from this cause; but, unfortunately, there is an idea that the addition of a brake adds an inconvenient weight to the machine. It is true that there is still room for improvement in the matter of brakes, but there is a pneumatic contrivance on the market which is both safe and effective. It being attached to the back wheel and being very light, the excuse of inconvenient weight cannot be urged. Another frequent cause of accident is the practice of "scorching." For the benefit of the uninitiated, we may define the term as an impulse overruling the cyclist's reason, compelling him to overtake any and every moving object which may be in front of him. It is somewhat analogous to the schoolboy's love of overtaking those walking before him, and it shows similar lack of mental control. Oblivious of everything but the one object of overtaking that which is immediately in front of him, he rushes madly on, and, if fortunate enough to escape injury to himself, is only too likely to cause serious harm, if not death, to the pedestrian who may be unfortunate enough to be in his way. The ambition for record breaking and the desire for making a "century run"—i. e., the covering of a hundred miles in one day—are greatly responsible for the practice of "scorching," and they should be strongly denounced by any medical man who has an opportunity of advising in the matter. These two causes of accident, which we are sorry to say cannot be attributed to the male sex alone, occur for the most part outside large towns, where reckless riding can be indulged in with some amount of impunity as far as the law is concerned. When we consider the accidents which occur in the busy towns, we have to chronicle carelessness, incompetence, and a lamentable want of knowledge as to the rules of the road. Quite a number of these accidents occur to women, many of whom are physically unfit to cope with the crowded traffic. Wedged in between a number of vehicles, and lacking the necessary nerve to extricate themselves, they waver, and either run into a horse and cause it to plunge or themselves fall beneath the wheels of a vehicle. The accidents which occur to the male sex may sometimes be attributable to the same cause, but more frequently they are the result of a reckless disregard of danger and a desire to pass by the vehicle in front. This causes the horse to shy and perhaps to upset the cyclist. Riding too close behind a vehicle is another cause of accident. The cart, or whatever it may be, suddenly pulls up, the cyclist rushes into it and is thrown, and another vehicle passes over him. Want of knowledge or willful disregard of the rules of the road, too, has been the cause of several deaths and severe injuries. It is not, however, always the fault of the cyclist that accidents happen in our crowded thoroughfares. The intolerance of cabmen, the reckless driving of butchers' traps and milk carts and light vans carrying provisions are too well known to need comment. Cabmen, too, often delight in causing as much inconvenience and annoyance to cyclists as they possibly can do, and we have been witness of a cabman deliberately crossing to the wrong side of the road in front of a cyclist for no other purpose than the wanton one of causing the latter to dismount. Drivers of light private vehicles again frequently show the utmost contempt for the cyclist, whom they seem to think has no right whatever to the use of the road. This feeling on the part of drivers often shows itself against pedestrians, and it cannot be too frequently pointed out that the road is not the exclusive property of the drivers of horses and carts. Faulty machines are a source of accident which manufacturers should be made responsible for. Several accidents have occurred lately from this cause, and we greatly fear that the increasing demand on the part of the public for machines will not tend to lessen this cause unless manufacturers are made liable. Two serious sources of danger are the use of the crowded roads by learners and the hiring out of machines to novices. A busy road would seem to be the last place a sensible person would select for learning to ride a bicycle, yet three deaths have taken place from this cause within the past few weeks. The hiring out of bicycles to children and youths bent on what they call a "spree" should be checked by law. It should be quite possible to license those who let out cycles for hire, and such persons should be made responsible if an accident occurs through the letting out of a machine to an incompetent person.

The cases which we have mentioned are not hypo-

thetical, but have been drawn from a list of recent accidents, and we have instanced them with the object of showing that the accidents connected with cycling are for the most part preventable. Our contemporaries who are devoted to the interests of "wheeling" have, we know, already done good service in this respect, but we venture to assert that if they would impress even more strenuously upon the cycling public the importance of strictly attending to some such simple rules as the following, much good would ensue. These rules are not intended to be exhaustive nor are they for the expert cyclist, although even the experienced rider should not ignore them.

Thoroughly examine your machine before starting on a journey.

Do not ride without a brake, which should be attached to the back wheel, if possible.

Beware of tram lines, especially when they are wet.

Avoid turning sharply on a wet or "greasy" road.

Pass horses at a slow speed.

Never take the feet off the pedals when riding down hills.

Do not ride with the hands off the handles, especially in crowded thoroughfares.

Ride carefully when passing side streets or the carriage entrance to houses.

Before attempting to pass another vehicle, ring the bell when at least twenty yards distant. This will give the rider time to see what the intentions of the driver of the vehicle in front are, and will enable the cyclist to take precautionary measures in time, should such be necessary.

When riding in parties, vehicles should be passed in single file.

Warning by the bell should be given in as gentle a manner as possible. The sudden ringing of a loud gong is apt to cause a pedestrian to lose his presence of mind and run into the very danger it was the intention of the cyclist he should avoid.

When riding behind vehicles in a crowded thoroughfare, be prepared to dismount at a moment's notice if necessary.

Keep on the proper side of the road.\*

Ladies should not attempt to ride in the public thoroughfares until they have absolute control over and confidence in their machines. They should keep as near as possible to the curb and ride slowly.

Those who wear a skirt should see that it is not too long. It should be lined in front with some glazed material in order to prevent friction, and all loose drapery which is likely to be caught by the wind and perhaps caught in the machine should be avoided.

In addition, we would suggest that persons who let out cycles for hire should be under the control of the police. It should be a punishable offense to let out machines not in proper order and no child or other incompetent person should be allowed to hire a machine.

It should be possible for the police to prevent novices learning to ride in the public thoroughfares.

Railway companies should issue cheap tickets for cyclists and their machines in order that riders might be enabled to commence their journey as far as possible away from crowded thoroughfares.—The Lancet.

## Diet as a Moral Agent.

A food experiment is being tried at the Elmira Reformatory, in New York State. All civilized nations hold out some inducements to the criminals in confinement to sooner secure their release from legal restraint. A certain amount of time is always taken off for good behavior. The criminal has often been exhorted to this end by father, mother, sister, brother and by others who had his interest at heart. His manhood, his future, his ambition and his hope of quick release from confinement have been appealed to and in many cases in vain. Now it is to the man's stomach that the appeal is to be made.

The proposed experiment contemplates, says the Medical Review, a somewhat enlarged scale of dietary privileges, increasing from grade to grade, from the lowest to the highest, so that within due and proper limit of indulgence of the appetite by prisoners in a prison reformatory for crime they can out of their own accumulations have the privilege to select meals at their pleasure, provided always that they keep their expenditure within the limits of the reformatory. The prisoners, under the wage earning system of the reformatory, as it is at present, must earn their living and keep a credit balance to their accounts, respectively, in order to progress toward their release by parole. A prisoner, to maintain a credit balance must needs restrain, regulate and exert himself in a manner which accomplishes and shows his improvement; but hitherto the diet rate has been inflexible. It is believed that if more latitude is allowed and the prisoner has a chance of tickling his palate occasionally with mince pie, a juicy roast or other homelike dainties, he will be more likely to make an extra effort to reform. In other words, if he has an inviting menu to choose from for breakfast, dinner and supper, he will get up and be a man.

\* This rule must be applied with intelligence. There are cases when a deviation from the strict rule will prevent an accident.