WARSHIPS FIRE THEIR BIG GUNS

Atlantic Fleet in Battle Practice Off Manila.

A MONTH OF HARD WORK

Annual Test of the Fighting Power of the Battleships.

Efficiency and Discipline Not Impaired by Entertaining Officers and Men Have Enjoyed—The Results of a Whole Year's Training Ascertained Under Conditions Simulating Those of Actual Battle—How It Feels to Be on a Warship With the Big Guns Going by Day and the Smaller Guns by Night.

ON BOARD U. S. S. LOUISIANA,
U. S. BATTLE FLEET.
MANILA, Nov. 24.

From a social point of view the climax of the cruise of the United States Atlantic fleet around the world was reached when the visit was made to Japan. Possibly the same statement might apply if the cruise were viewed from the standpoint of world politics. The climax, from a strictly business point of view, was reached when the fleet returned here from the Japanese and Chinese visits.

For more than three weeks the fleet has been engaged in battle practice. The work will not be entirely finished for another week. It consists chiefly in shooting a lot of big and comparatively small guns at targets under conditions that simulate as nearly as possible what would take place if the ships were engaged in actual battle.

The folks at home may have conceived the idea that this Atlantic fleet was sailing around the globe having a hullaballoo time of it, the officers and men being entertained lavishly, smothered almost with kindnesses, burdened with hospitality, acclaimed with delight and having nothing else to do but to hurry to the next place and get more dinners, attend more receptions, go on more excursions and listen to a lot of fine words about international friendship and brotherly love. There has been a lot of that, more of it indeed than the world ever witnessed before; but don't get the idea that that is what a modern battleship fleet is for or that it is the chief end of a modern naval establishment.

The truth is that all this entertainment has interfered more or less with the real work of the battleship fleet. That work is to be as nearly ready as possible for war at a moment's notice. The only way to do that is to be prepared to shoot hard and straight. Hence it is that once a year Uncle Sam's warships go through battle practice. An entire year's drilling leads up to that one thing.

Social asides and international calls interfere more or less with the extensive preparations to that end. They distract the minds of those engaged in the preparations. Of course they have their proper place and the old saying about all work and no play making Jack a dull boy applies to warship men with as much force as to any one else.

But it requires all the more effort to keep a fleet up to the mark if the social side of things runs to extremes, and right there is one of the big problems which those in control of the Atlantic fleet have had to contend with on this cruise. They had to remember what this fleet is for and they almost had to work overtime to keep things right up to the mark and be ready for the supreme test of efficiency which the men and ships must undergo once a year in the American navy.

EFFICIENCY IN THE FLEET.

Lest it may be thought that all the attentions showered on the fleet have caused a letdown either in efficiency or in discipline it may be stated simply as matter of cold truth that the Atlantic fleet has been brought to a state of efficiency in daily routine and persistent and well planned work that no American fleet ever reached before. It is true that while the fleet was in port nothing much could be done in the way of advancing efficiency, but while at sea all lost ground has been made up.

Never have the officers and men on a fleet worked harder, never have they worked more willingly, never have they been better prepared to do the work for which the fleet really exists. The fleet was in fine condition when Admiral Sperry took charge of it. The foundations had been laid for a fine development of skill through incessant labor. He moved right ahead. There was no satisfaction with what had been accomplished, there was no stagnation of forces.

As to what was done in detail it is not proper to speak of, and it is almost exceeding the limits of proper information to make mention of general results. There are those who hold that such matters should be learned by other nations in their own way, if they can learn it, but inasmuch as some details of the amount of work done in evolutions and in practice of various kinds have been made public, with the approval of the authorities of course, it is within the limits of propriety to allow those at home to know that all the social attentions received at the various stopping places have not interfered with the real work of the fleet and that that work has been developed as it has never been developed before in the history of our naval establishment.

FLEET'S BUSY MONTH.

The fleet returned to Manila Bay for strictly business purposes. Indeed Admiral Sperry with full propriety might have hung out the sign: "This is my busy month."

Furthermore, he might have added to the list of signs and have put up notices to this effect: "Callers not admitted during working hours—apply at the office"; "Do it now"; "Visitors will please not talk to the workmen," and so on.

Ever since the fleet got back to these waters its time has been taken up with various details for the battle practice in Subig and Manila bays. The ships have been scattered all over the lot. If you got on shore and wanted to get back on your ship it took you several days to do it, as the newspaper correspondents with the fleet found out. You might get on board some ship by leaving Manila before daylight on an army tug, only to find that your own ship was miles and miles away, often a mere speck in the distance.

Gradually you got transferred from one ship to another until you got almost within hailing distance of your own only to see her up anchor and go off on some detail of preparation for this shooting business. Sometimes late at night you thought your ship had returned to the rendezvous, about fifteen miles out in the bay, and you would trespass upon the patience of the executive officer of the ship on which you happened to be marooned and get him to give you a launch to find your vessel. After a search of an hour or so at midnight you would come back and say you couldn't find that ship. You soon learned that these ships were down here strictly for business.

RECORD PRACTICE AND BATTLE PRACTICE.

Any matter that requires a year's training to perform must be serious in nature. You wonder perhaps how this battle practice is different from the shooting exercise that is held in the spring of the year and which the Atlantic fleet disposed of with great credit to itself last March in Magdalena Bay.

Well, you may be surprised to learn that that practice, lasting nearly a month, was simply one of the preparations for this work in Manila Bay. The spring target practice on our warships is called record practice. Its purpose is to qualify men to shoot in battle practice. In other words, you find out by record practice which men can shoot the best and then you set those men to training for the real work of battle practice.

In record practice each gun or set of guns is shot individually. In battle practice the guns, in a general way, go off in a ripsnorting slambanging style apparently, but not so actually, and you shoot as if you were banging away at another warship, and you let 'er go just as fast as you can, everything roaring and booming at once or as often as possible.

Record practice is more or less tedious. A ship may be two or three days doing the work, with long pauses between the individual shots. In battle practice the work is of only a few minutes comparatively, and while it lasts you are on a volcano with fireblasts belching out only a few feet from you, with vast clouds of smoke swirling around, with the smell of gases almost choking you and with a score of thunderclaps buffeting you and making you jump and duck and wish that it was all over almost before it has begun. It's spectacular, but no fun.

THINGS THAT ARE NOT TO BE TOLD.

But what do they really do at battle practice? The slang expression "You can search me," applies to every newspaper correspondent in this fleet and properly so. You may have read last spring the accounts of the record practice at Magdalena Bay. If you did you noticed that there was a lot about noise and smoke and splashes, but nothing was said about the distance of the target, the number of runs made over the range, the number of shots fired, the time of the runs, the results of the shooting, except the statement in a general way that in the main it was pretty good.

There was a reason for it all. That is what every navy tries to keep secret. It is quite true that it never does keep such matters fully secret, but that in no way lessens the obligation of newspaper correspondents to have no part in making such matters public.

If you hunt around you may find publications telling in more or less detail what is said to be doing almost every second on a warship during battle practice and giving almost to the last minor incident how the system is worked. Indeed one such publication lies on the writer's desk as this is being written. It is from a German newspaper and if what it says is true it indicates that there are no secrets on warships, even on those matters guarded most carefully by the experts.

Is it true? Well, some of the experts smile incredulously and declare that they think that writer will have to guess again if he wishes to give correct information about American warships. True or not, no word on inhibited subjects must be expected in this letter. One of the conditions imposed on correspondents with the fleet was as follows:

"To refrain from giving out for publication, while with the fleet or later, any military information, such as detailed descriptions of mechanisms or of methods of drill, method of handling fire control, tactical manœuvres, scores of target practice, &c.". Therefore no details of battle practice may be given.

THE TARGET AND THE SHOOTING.

As has been said, battle practice by any ship or fleet is going through the motions as if you were in actual battle. You get the range of any enemy and you fire all the guns at him that you would fire in battle and you do it as often and as accurately as you can.

The enemy—all this is known to naval people the world over and so one can talk about it—in battle practice is a big target. It is supposed to represent the side of a battleship in the middle section. It is about as long as the heavily armored part of an enemy's ship and as high.

You let loose your guns at it while you are in motion and the range varies constantly. After a given time of shooting has elapsed you bring in the target, make an estimate of the hits from the holes and rents and the umpires give you your percentage. You fire all your big guns in one run in the daytime and you fire your little guns at night with searchlights on the targets. You are then supposed to be repelling torpedo craft.

There are many things to be done in preparation. In the first place you have your regular drills at the guns, where you get team work and expedition in quick loading and in getting on the target. Then you have to develop the system of getting ranges and of communicating with the men at the guns to tell them when to fire and how: fire control.

But you have to make special preparations in addition. Before you go into battle practice you have to have calibration. What is calibration? The dictionaries may tell you. It is a system of firing a given number of shots at exact known distances under the most favorable and fixed conditions, with every factor known in advance, and the purpose is to find out and rectify any possible errors in the guns or ammunition.

Powder may deteriorate slightly after a time. A gun may perform differently when warmed up than before. There may be errors in the sights and all such things. Calibration therefore is a system of standardizing your gunfire and of bringing all your guns and ammunition up to that standard.

You want to be sure that when you fix the range at, say, 2,000 yards, and your deflection is all right and your cross wires on the bullseye, the projectile will make a bullseye. There is no secret about calibration. All navies have to do it.

The ships for this work went into Subig Bay, where they could get absolutely smooth water and where the opportunities for accurate observation were of the best, and then studied out the delicate problem of adjustment. That was the first special work done.

Then came a series of practical tests of one kind and another. All the guns were boresighted as usual, every piece of mechanism was put in good shape. A plan of detailed action for every possible contingency in battle was drawn up and then there came practical runs day and night with everybody keyed up and in a state of tension and everybody hoping his ship would beat out the rest.

MEN EAGER FOR THE WORK.

The strain of preparation is enormous. Not only is the ordnance officer of the ship worked up over what this experiment and that plan will result in but the tense condition is shared by the other officers and gets down among the men. In record practice the men compete for money prizes given by the Government.

There are no money prizes in battle practice, but the pointers and all the others of the gun crews get worked up into a state of nervous energy as the hour for shooting begins that makes one think they could scarcely be more interested if actual war were on. For days and days, morning, noon and night, little else occupies the attention of those on the ship and as the great hour approaches a sense of calm settles down over the ship because with it comes the feeling that the work of a year will soon be finished and it's just as well to be calm and take it as a matter of course.

Of course the ship has to be stripped to som extent for firing. Pictures have to be taken down and glassware and crockery secured. Unnecessary things are stowed away and all is made snug.

When one big gun goes off it shakes a ship tremendously, but when three or four are let loose either simultaneously or one close after another or in helter skelter fashion there's a lot doing in the way of vibration. You have your things all put away in your cabin beforehand if you don't want to find them jumbled up when the shooting is over.

Well, preparations all being completed and the day and hour fixed for the shooting you go out on the range. The targets are put in position and you steam up and all hands take a good look at them and then off you go for what might be called a long running start. It is something like the start an athlete takes when he makes the high jump.

After the ship has steamed perhaps five or six miles away and the engines are working finely, so that the standard of speed may be kept up accurately, the turn is made and back you come. Sealed instructions are opened and then you learn at what spot you are to begin shooting, at what speed you must travel, in what slanting direction you must go.

THE WHISTLE BLOWS.

When the proper moment comes a blast is blown on the whistle. It is the signal to begin shooting. You do not know how far you are away from the target. You use your range finders and a whole lot of information instantly goes dashing through the ship to the men at the guns, and then comes a great roar with a shock that shakes the ship, a great cloud of smoke and a sheet of flame burst from a gun and then all is silent.

You wait for the splash. It is a test shot. Perhaps another is fired, and when the corrections are made another shot shows that the correct range has been obtained. All the time the ship is getting closer or going further away from the target. Then comes the storm.

The men at the guns know just how to fire. It is a busy time. All over the ship the stalwart youngsters are loading, ramming, sighting, training, and then come commands to fire.

Perhaps the guns are fired separately and perhaps not. All the spectator knows is that roar after roar, jump after jump, jolt after jolt comes. The battle is on. The game is to destroy that target.

Your ears are stuffed with cotton, and you also hold finger tips in your ears. The smoke clouds your eyes, the gases rush into your nostrils, you are somewhere in the neighborhood of what you have always imagined chaos to be like.

GEYSERS SPRING UP.

You watch that target. Great geysers are leaping up in front, behind, beside it. They rise to a height of more than a hundred feet. They stand in the air an instant. They even obscure the target. If the wind is brisk they fall to the bay in beautiful showers and are quickly blown aside, a rainbow perhaps fading with them as an omen of good luck.

Your eye can even see the large projectiles curving through the air. Straight they seem to go at first, but just before they drop they sometimes curve aside a little. The target is a mere speck. How could anything be made to hit it, say four miles away?

Well, those shells keep hurtling on. Soon there is a great gash in the target. You are afraid that more shells will go through that rent and your ship won't get credit for it. Ah, there's a beautiful hit, ripped things right and left! There's a splash way off to the right.

You have heard sometimes at a horserace a madly yelling crowd shouting directions to this and that jockey telling him exactly what to do? Of course he cannot hear a word, but it lets off steam to yell at him. Well, you feel like yelling at the gun pointer to get back on the range when you see that splash. He could not hear you, but the impulse is strong.

Then come some shots over the target and you wonder if that man will ever get straightened out. Ah, but there were three or four beautiful shots! See, the target is sagging! A hole is torn in one corner. "Don't bite 'em off on the corner," you yell. "Get 'em over a little! That's right! Bully boy! Eat 'er up!"

ROOTING FOR A GOOD SCORE.

Talk about baseball rooting! That's boys' play compared to the rooting, straining, bending, hip-hipping that goes on as this rain of shells passes over the water. You forget all about the noise.

Perhaps the cotton in one of your ears gets loose. An awful roar shooks you and you clap your hands to the sides of your head. That target is getting a good lambasting. Surely the time is up. What? Only half gone?

Well, they are the longest minutes you have ever known, unless it was the last few minutes of that gruelling race you rowed when you were just ahead and you feared you couldn't last ten seconds more.

Back your attention goes to the noise and shocks and just then you forget all about the target and your mind gives itself up to wondering if you forgot to secure the soap dish in your room. A lot of fumes sweep into your face and you get to snorting over them and then comes a blast of several guns which happen to be going off at the same time. The ship shakes and heels over a little and you know what a big earthquake is like, or you think you do. Your footstool is trembling and you are lunging a little.

The ship is all alive. Hell has been let loose and you are right in the portals. Will they never finish the run? That target is all ripped up in the centre! The practice has showed that the men can shoot straight.

Your nerves are getting overwrought. What is the use of wasting any more good powder and projectiles? Rip! Boom! Chug! Brrrrrrrr! Crash! Crash! Crash! All the demons in creation are dancing jigs, spitting fire and swearing at you. Ah, let up; that's enough! Then the whistle! What, only so many minutes? It seemed an hour.

It's all over, the ship steadies herself, you pull the cotton from your ears, you fill your lungs with good fresh air in long drawn breaths, you catch your mate by the hand and shake it and then you wonder what is the result.

Out there miles away is a torn and tousled bit of canvas tottering on a raft and you say that you're glad it wasn't a ship and you had to do all that carnage in reality. Well, you steam in close and the ordnance officer comes around and says this thing and that worked well and this and that didn't, and he's afraid the whole thing was a failure. He didn't really expect to make every shot a hit, but he's disappointed that he made so few of them.

EXAMINING THE TARGET.

Well, it's all very well for a modest ordnance officer to talk that way, and you wait eagerly until the boating party brings the target on board. The umpires gather around and the men gather the edges of this and that shot together.

Here and there are big, clean holes with black marks two inches wide around them. A glance tells what kind of gun made them, but a sort of gauge is applied to make sure. You are surprised to find really so few of them.

But then there's the great rent in the centre of the target. You can see the marks of at least one shot on the edges. What, all that hole was torn by a splash? But lots of shots must have gone through the hole. Wait until the observers who were out at the range and who could see the shots go over the target report.

You don't get a good allowance for that hole? Well you are astonished! And only just so many 12 inch, so many 8 inch, so many 7 inch shots are given to you? Well, with your own eyes, even though you were miles away, you saw twice, yes three times that number of hits made. You are sure of it, but those cold blooded umpires insist on making this a strictly business matter and you feel like pitching them overboard.

When the decision is announced you go around and hunt up the ordnance officer, shake him by the hand and tell him you know he could have done better another time and that next year you are sure he will bat the eye out of the target. He thanks you and says they might have done worse and just as you are beginning to be miserable with him you are surprised to find him quite cheerful again and, the inconsistent man he is, really happy over the day's performance. Then if you are a mere spectator you wonder what business you have on a warship at all and why you were ridiculous enough to get worked up over the matter.

THE NIGHT ABLAZE!

Then comes the night practice. That's a different story altogether. You are on the range once more. The searchlights shoot out as the whistle blows.

There you have picked up the targets! Instantly a new set of demons cut loose. The projectiles all have what they call tracers on them. They are little tails which take fire in the air. You are firing with comparatively small guns now. Twice as many shots are in the air as in the daytime and you can watch the course of every one of them.

The little rockets dart across the water in beautiful curves. They reach the top of the arc and then they curve down. Splash after splash springs up. Those rods of fire are going home. Some attraction like an immense magnet seizes them in their flight and draws them to the target.

"You can't get away from me!" it seems to say. "Come here! Come here! Ah, I've got you!"

Then your ears get to aching, your eyes are blinded with the flashes. If there is any noise on earth more devilish than that of a three inch gun no one has yet recorded it. It seems to want to try to tear your ears to pieces. There is no great shock. These sound waves come bursting in on your ears and you feel like trying to beat them away.

Still the arching rain of red hot rods goes through the air. A little canvas speck all lighted up with searchlights is being peppered and you say you feel sorry for any torpedo boat that would have to meet that fire.

The whistle blows. What, that was only half as long as the daylight run? Fully twice as many shots were fired? Well, it is hard to believe it, but in comes the target and again you are surprised that the thing is not full of holes, nothing but a hole in fact. Ah, but there are hits there, any one of which might have put a torpedo craft completely out of business. A good many hits too! And when it is all over you see the real value of this training and that night you can sleep feeling sure that if the ship ever does get into action the other fellow will know a good deal about it.

Ship after ship goes through this performance. The days go by rapidly and before you know it a month has nearly gone. The fleet may have had a good time here and there. That was partly business and mostly social.

This battle practice is all business and when it is over you know that while a part of the United States navy has been gallivanting around the world it has not allowed pleasure to interfere with its real work and that the same development that has been made in other matters must also go to the shooting department.

What were the results? Nothing on that, if you please, unless it is the vague statement that the country need not feel ashamed of the fleet. In its own good time, if it decides it to be wise, the Navy Department may make public some of the results of the shooting. You'll have to wait for that.

But didn't those ships—never mind the number—that seemed to smash the targets all to pieces do remarkably well? Ask the Captains about that and perhaps you may guess, or you may not, from the peculiar look in their eyes what the answer is. A dilapidated target doesn't always mean magnificent shooting. Sometimes it may, but not always.

This much may be said in conclusion: The year's great business task of the Atlantic fleet is practically over. The fleet is now ready to go home. It is also ready for a feast, a frolic or a fight.

CALENDARS IN TABLOID FORM

THAT CAN EASILY BE CARRIED IN THE HEAD.

Rhymes, Sentences and Figures by Which One Can Determine by Mental Work the Day of the Week Upon Which a Certain Date Has Fallen or Will Fall.

There are two serious defects about the average calendar. One is that you may need it most when you are not near it and the other is that it is useless except for the current year. Even for any month but the current one you usually have to turn it over.

There are many occasions when one wishes to tell from memory upon what day of the week a certain date will fall or has fallen. Many suggestions for calendars that can be carried in the memory have been put forward from time to time, most of them based on the same principle, but some simpler than others.

The simpler methods usually require a greater mental effort to work out, while the complicated schemes can be worked out with great rapidity and accuracy provided the person using them has the requisite amount of practice. This condition usually restricts their use to stage performers, and especially to lecturers on mnemonics.

The simplest perpetual calendar of all and the one which is probably the best known requires no further effort of the memory than to commit to its keeping the following couplet, in which the first letter of each of the twelve words represents a day of the week:

Time Flies Fast; Men Wisely Say:
Men THink Alas, Time's Fooled Away.

The TH in think stands for Thursday, to distinguish it from the T, in time, for Tuesday. A stands for Sunday, to distinguish it from the S for Saturday.

In order to tell upon what day of the week any date in the nineteenth or twentieth century fell or will fall first determine whether the year asked about is a leap year, which is easily done by seeing if it is divisible by 4, remembering that 1900 was not a leap year. If it is a leap year the process is comparatively simple.

Take half the last two figures and divide by seven. The remainder is the day of the month upon which the day of the week indicated in the foregoing couplet would fall.

Suppose the date asked for is July 4, 1868. This was a leap year and half 68, 34, divided by 7, leaves 6. July being the seventh month in the year, the seventh word in the couplet, "Men," indicates that the remainder found points out Monday as July 6 in that year; so the Fourth must have fallen on a Saturday in 1868.

When the date asked for is not in a leap year take half the preceding leap year and then deduct 1 for each year passed since that leap year before dividing by 7.

Suppose the date asked for is Christmas, 1895. The previous leap year was '92, half of which is 46, and three years have passed since '92, which leaves 43 to be divided by 7, the remainder being 1. The twelfth word in the verse is "Away," indicating Sunday as December 1, so the other Sundays must have been the 8th, 15th and 22d, giving Wednesday for the 25th, or Christmas Day, in 1895.

For the twentieth century it is necessary to add 2 to the remainder found after dividing by 7. Suppose the day of the week required is for January 3, 1909. The last leap year was 1908, and half 8 is 4. Deduct 1 for the year passed, and you get 3. As it cannot be divided by 7 it is all remainder, to which 2 must be added for the twentieth century, giving 5. The first word in the verse, for January, is "Time," indicating Tuesday as the 5th, so the 3d must fall, two days earlier, on a Sunday.

Professors of mnemonics who give public exhibitions of their powers instead of committing to memory the order of certain days of the week begin at the other end and fix in the memory the following table of the dates on which the first Sundays in each month fall in what they call their standard years. While any year might be made a standard, as all calendars repeat at intervals, this is the table in general use by the profession:

1 June	2 Feb., Mar., Nov.	3 August
4 May	5 Jan. Oct.	6 April, July
7 Sept., Dec.		

The standard years are those in which the first Sunday of each month falls on the dates indicated by the table; such as 1862, 1873, 1879, 1890, 1902, 1913, 1919, 1930. Constant use fixes these standard years in the memory, but some mental dexterity is required in telling instantly how many leap years have intervened between the year asked for and a standard year.

Suppose the date demanded by some one in the audience is May 31, 1853. The nearest standard year was 1851, to which 2 must be added to get to the year asked for and 1 for the leap year, 1852, which has intervened. Your departure from a standard year is therefore 2+1, or 3, and this 3 must be deducted from the figure given for May in your standard calendar. The remainder is 1. Now you have your Sundays for May, 1853, as the 1st, 8th, 15th, 22d and 29th, so the 31st must have fallen on Tuesday.

Although this is a rather complicated process, it is simplified by the fact that the professional has his standards always before his mind's eye, and it is astonishing with what lightning rapidity he can name the day of the week when a date is given him. He pretends that he committed to memory all the calendars for all the ages of course, the mental arithmetic being concealed.

There is a method by which the day of the week for any date from the beginning of the Christian era to the year 2200 can be determined, but it requires the use of several large and complicated tables of factors in order to arrive at the result.

Another method, preferred by some to that first given, is to commit to memory the following figure values for the twelve months of the year:

Jan.	Feb.	March	April	May	June	July	Aug.
3	6	6	2	4	0	2	5
Sept.	Oct.	Nov.	Dec.				
1	3	6	1				

The mnemonical method of retaining these figures in their order will be given presently. The rule for their use is to take the last two figures of the year and see how many times 4 will go into it. Then divide it by 7 in order to see what the remainder would be.

Add these two results together and then add the day of the month and the figure value of the month as given in the table. If the grand total of these additions is divided by 7 the remainder is the day of the week on which the date asked for falls, Sunday being considered the first day, Monday the second, Tuesday the third, and so on.

Suppose you want to know the day of the week on which Lincoln was born, the date being February 12, 1809. Take the last two figures, 09, and 4 will go into them 2 times. Divide the same 09 by 7 and the remainder is 2. That is, 4 altogether.

The date asked for is 12, which brings it up to 16, and the figure value of the month is 6, a total of 22. Divide this by 7 and you get a remainder of 1, indicating the first day of the week, or Sunday, as the day on which Lincoln was born.

For the twentieth century it will be necessary to deduct 2 from the final calculation of a remainder. If it is required to know the day of the week on which Christmas will fall in 1910 you find that 4 will go 2 times and 7 will leave 3 as a remainder. The date is the 25th and the figure value of December is 1, a total of 31 to be divided by 7, giving a remainder of 3, from which take 2 for the twentieth century, leaving 1, or the first day of the week, so that Christmas next year will fall on a Sunday.

For ready reckoning purposes many business men prefer a calendar for the current year which they can carry in their heads. This may be made by setting down in order the dates of the first Sundays in each month of the twelve and then committing that order to memory. The first Sundays for the months of 1909 will be:

Jan.	Feb.	March	April	May	June	July	Aug.
3	7	7	4	2	6	4	1
Sept.	Oct.	Nov.	Dec.				
5	3	7	5				

With these as starting points, any date in the year can be found by adding 7s for succeeding Sundays. Suppose you want to know the day of the week that Decoration Day will fall on this year. The Sundays in May for 1909 begin with 2 and are the 9th, 16th, 23d and 30th; so Decoration Day will fall on Sunday.

Those who are familiar with the use of the figure alphabet will have no difficulty in remembering the order of any series of numbers such as these month values. Each consonant sound represents a figure, and cognate sounds, such as t and d, stand for the same figures.

By writing out the figures and under them their consonant values it is an easy matter to fill in with vowels so as to make words or sentences, as vowels and w, h and y have no figure value. Such words or sentences retain the figures in a fixed order. This is the figure alphabet in common use:

1	2	3	4	5	6	7	8	9	0
t	n	m	r	l	sh ch	k ng	f	p	s
d					j	qu	v	b	z

Taking the line of figures given for month values you can easily make a sentence such as

Making a wrench gattle meekly,

which has the advantage of keeping each section of three months in one word. Observe that it is sound and not spelling that is translated, so that double consonants have a single value.

Some persons make a new sentence for each year, so that the figures shall always represent the first Sundays. Others get one order of figures and one sentence fixed in the memory and use it for every year, changing the day of the week to which it applies, which they find simpler. For example, in the year 1902 this sentence gave the figures for the first Sundays:

A linen shirt which I am cleaning.
5 2 2 6 4 1 6 3 7 5 2 7

In 1903 the same figures were used for the first Mondays and in 1904 for the first Tuesdays, and so on until leap year came around in 1908. This made it fit the Mondays again, except for the first two months.

ODD HAIR DRESSING STYLES.

Coiffure That at a Distance Looked Like the Rising Sun.

From the Baltimore Sun.

"One of the most interesting things that came under my observation was the odd manner in which the people wore their hair," said Dr. Harry Dorsey, describing a recent visit to New Guinea and the leading traits and characteristics of the inhabitants, known as Papuans. "One type wore the hair standing up from the head at a length of seven inches or more. It was trimmed with wonderful regularity and with mathematical accuracy. The hair was greased with cocoanut oil and painted red. At a distance it looked like a rising sun."

Another type of the inhabitants who wear their hair in an unusual fashion was described by Dr. Dorsey.

"Starting from the forehead," he said, "the hair is brushed back over the scalp and hangs down to the waist. It is a perfect mass—an intricate jungle. I am sure it was never combed and it was impossible to run the fingers through it. At a distance it looks like a cap with the visor turned downward.

"One other odd type of hair dressing—coiffure, if you will—was observed on this visit. The hair was gathered at the front and back, then brought together above the head, where it was enclosed in a basket-like cylinder. The end spread out about two inches. Apparently these caps are never removed from the head."

Discovery of Peat Bog in Maine.

From the Kennebec Journal.

An analysis of the strange mixture which spurted ten feet in the air when Henry Hagan was digging a trench on the Alonzo Davis place at Norridgewock a few weeks ago shows that it is the finest peat.

So finely separated are the particles that the substance after the water evaporates from it is nearly all carbon. It hardens quickly, and when in this state burns readily. Hagan was digging a trench through a piece of low ground when he struck the vein. It spurted into the air with a rush that drove the men from the trench. The substance was so fine that the men thought it contained oil, but the analysis showed this conclusion to be erroneous. About ten tons are in sight, and it is believed that there is a still larger deposit under the surface. These suppositions are borne out by the fact that the stuff spouted out like an oil well for a while, indicating that somewhere it is under great pressure from a clay or other deposit.

HE IS A SURGEON TO FISH

MR. KUBLER HAS AN ODD SANITARIUM IN THE BRONX.

One Patient From France Just Cured—Tuberculosis, Cancer, Colic, Bladder Disease and a Fungus That Attacks Fins and Tails Afflict the Sufferers.

Cat and dog hospitals and even doll hospitals have been familiar to New Yorkers, but it will be news to most of them that there is a sanitarium for fishes and that patients are sent from as far away as France for treatment by the specialist who heads the institution.

Gustav A. Kubler of 813 Ellsmere place, The Bronx, is the fish doctor. His well equipped hospital for unfortunate fishes which have met with accident and sporty fishes that have lived not wisely but too well is in the basement of his house. There are accommodations for 500 patients. At present there are 110 ailing fishes under the fish doctor's care.

Although Mr. Kubler works without pay, impelled merely by his desire to learn all that may be learned of the inner workings of fishes, his advice as an expert is sought by the director of the Aquarium and by the Department of Agriculture. His reputation as a specialist has reached as far as France, and at present he has under his care a fringe tail from Paris. This gilded gentleman is suffering from a fungous growth which is eating away the long fringing fins from which he takes his name and which are his chief beauty. This patient is about ready to be discharged as cured. The operation which effected the cure necessitated the removal of the splendid fins and tail, but these have grown in again, and yesterday Mr. Fringe Tail was to be observed swimming about the tank with all the dash and grace of the accomplished veteran boulevardier.

The patient from Paris is only one of many that have got back into the swim through the good offices of Mr. Kubler. Ever since he was a small boy Mr. Kubler has taken the keenest interest in ailing animals of all kinds, but more especially in the swimming and crawling things whose troubles usually excite no pity. Serpents with bruised heads, lizards with internal complications, carp with fatty degeneration of the heart—these and many more were the subjects of his earlier experiments. Soon the neighborhood was asking his advice about overfed lap dogs and battle scarred cats, and old ladies were predicting for Mr. Kubler a career as a great surgeon. His chief interest, however, centred in the little known diseases of fishes. Ichthyology was his favorite study and his experiments and collection of apparatus for his fish clinic kept pace with his reading.

To-day he has probably the best equipped fish hospital in this country, if not in the world. There are tanks for each sort of disease, and as soon as the patient yields to treatment he is put in a large compartment which is reserved for convalescents only. To control the temperature of the water a special heating apparatus has been installed. City water is used, but before it is run into the tanks its temperature is graduated to the required degree. The fish doctor considers the temperature of the water a necessary factor in his treatment.

The pharmacy is well supplied with drugs, but their nature and their combination are kept a secret. Anæsthetics are frequently given. This, strangely enough, the fish doctor finds necessary to dull the shock of operation and also to keep the patient quiet under the knife. The operating table execept in regard to size does not differ materially from that to be found in the more ordinary sort of hospital. Just above the table is an electrical machine capable of producing a current of twenty volts. Fishes that have apparently succumbed on the operating table are often revived by an electric shock, and the battery is also used when operations with the electric needle upon the eye are necessary.

Among the patients at present under treatment are white and yellow perch, American goldfish, Japanese goldfish from Tokio, sunfish, catfish, mirror carp, pearl roach, American roach and a sucker. The inmates of the hospital are all from fresh water.

The white perch is suffering from cancer of the tail and scales, the yellow perch from tuberculosis. The American goldfish is suffering from an obscure complaint which is causing his gold to turn to silver. The catfish has a broken nose and the mirror carp has an acute attack of indigestion. The pearl roach and his American brother have a form of colic. The sucker has managed to acquire all the troubles of the others and a few of his own. The most prevalent disease is a fungous growth which attacks fins and tails of all species. This yields readily to skilful operation.

A German carp from Heidelberg whom high living had afflicted with eye trouble and bladder disease was recently on the operating table for two hours. The protracted operation was successful. The carp is now swimming about in the convalescent tank and will soon be entirely recovered.

The sending of a fish across the Atlantic for expert treatment may seem a bit of foolish extravagance, but the owners of these pets apparently form for them the same affection that is frequently exhibited by the owners of dogs and cats and there is besides the scientific interest in the study of fish physiology and hygiene which impels the owner of a fish with a strange affliction to send it to Mr. Kubler's hospital.

Mr. Kubler's work long ago attracted the attention of the Department of Agriculture, and the fish experts of the Department exchange with him the latest data upon the treatment and rearing of fishes. The fish doctor's increasing reputation and the calls he receives from wider fields have not lessened his interest in the humbler sort of practice and he still gives much of his time to prescribing for the common or family variety of goldfish, whose close confinement makes him particularly susceptible to fungous growth and eye complaints.

What Counts in a Story.

From the Boston Record.

As I heard a famous raconteur telling a story I had heard in one form or another for many years I could not but recall the statement of some one to the effect that there are but five stories extant and that all we have are merely variations from the original five.

As Gen. Taylor, who is something of a story teller himself, puts it, "The story doesn't amount to anything. It's the edition that counts."

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By FRANKLIN MATTHEWS

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