NATIONAL SCHOOL
SAILING ASSOCIATION

SAILING ON TABLE BAY & AN ALTERNATIVE IDEA

Curriculum Development Paper No 3

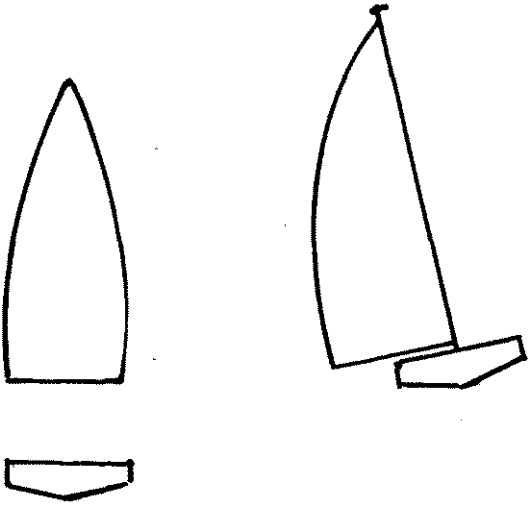
Cdr B.W. Lucke (H.M.I. Rtd.)
& W.B. Keeble

SAILING ON TABLE BAY.

This is a project to make an indoor yacht racing game for use in winter, in bad weather or just for fun. Since children of all ages up to about 90 should get a great deal of pleasure out of it, this may not seem a very serious enterprise. It should not, however, be written off as "just play". Provided design, construction and the writing of rules are left to the children, with a minimum of help and guidance, but with a critical appraisal of the results, there is much of educational value in the work entailed. Some of the reading and writing will tax the powers of the most able boys and girls; there will be a need to observe closely what goes on at Regattas, and to make imaginative use of what is learned from them; there are the intricacies of the International Yacht Racing Rules to master and to re-interpret to suit the conditions of the game; rules, sailing directions and "chance-cards" will require an almost legal precision of language if ambiguity is to be avoided; some simple concepts in the geometry of ,vectors and a considerable knowledge of chart abbreviations will form a part of the work, and there will be excercise for neat fingers and decorative skills in making the parts. While the game will not improve practical performance afloat in the management of craft, it may and probably will, have an improving influence on racing strategy and tactics. In its simplest form, all that is required for "sailing water" is a (preferably blue and white) chequered plastic tablecloth or sheet of squared paper . Size is not vital , though the larger the "sheet of water", the better the game and the more people who can play . On the cloth will be placed some model buoys and boats and an octagonal top will serve to decide the direction of the wind. Dice can be thrown to decide upon

Mast-a pin

Sail - thin card with a paper sleeve free to turn with its own weight



Buoy - tooth paste cap, glue shortened pin and paper flag

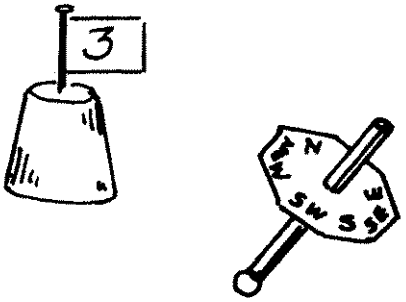
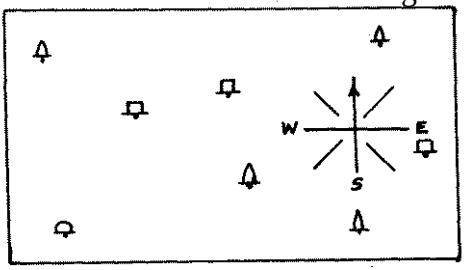


Fig. 1

Fig 2



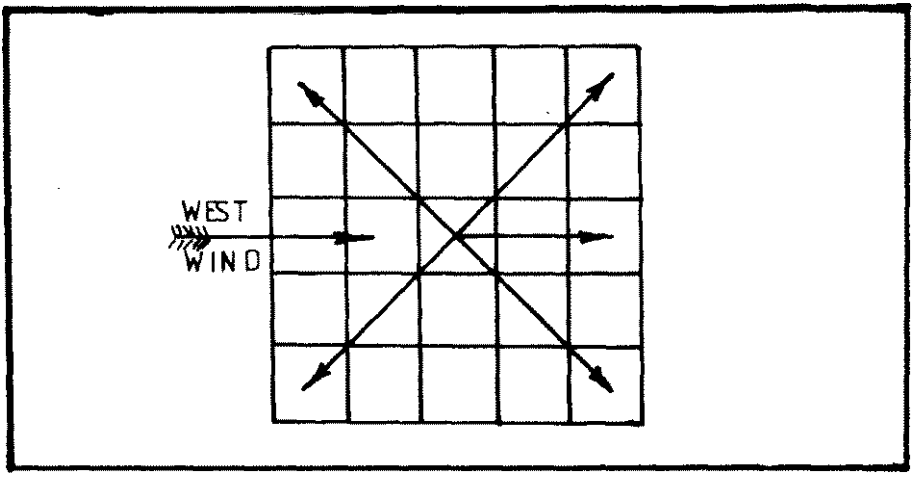
distance sailed by each player in turn (See Fig.I for simple designs.)
Fig. 2 shows a suitable lay-out with which to introduce the idea. Pencil marks can be made at a number of places for perhaps six or eight buoys. The tops of toothpaste tubes and cosmetic packs are excellent for this purpose as they come in a variety of shapes and colours. Each buoy should be identified by having a number painted on it or on a small flag flying from its top. A compass rose showing the cardinal and semi-cardinal points is an essential, and a wind arrow to lay on top of it will help remind players of the direction.

A number of course cards should be prepared defining precisely how the races are to be sailed; these should read eg: "Start: A line between buoys Nos. 1 and 2. Cross the line leaving,No. I buoy to port and No. 2 to starboard. Thence to No. 3 buoy leaving it to starboard. Nos. 5,7 and 8 to be left to starboard. All other buoys to be left to port. Finish on the starting line with No. 1 buoy to port and No. 2 to starboard." Courses should be made out to include a few complicated ones involving "figures of eight", finishing backwards across the starting line and so on.

In the early stages , it is best to commence play from a standing start, all boats being lined up on the start line in numerical order and the dice cast to decide who is to command each boat. This should be done before the wind top is spun to decide its direction. Very careful rules need to be drawn up for this stage of play so

that there shall be no argument as to who does what and how.

Starting with boat No. 1, each player then throws the dice in turn after he has headed his boat in the



direction he wishes to of course be decided by lines of squares and wind direction. (Fig.3 illustrates the point). It may be that a more complex system of reckoning moves is desired; in that case 2 dice might be used for boats reaching and running and only one when tacking, thus making a fairly realistic allowance for speed on those points of sailing.

Before many moves have taken place, the problems of "Rule of the Road" will raise their ugly heads. When the "give way" boat is the one about to move, there is no difficulty: her move must be restricted so that she does not enter or pass through a square occupied by a "stand on" boat. Where the boat about to move is the "stand on" vessel and the boat whose square she wishes to occupy or pass through is the "give way" vessel, the problem is more difficult. One solution is, in this case, to make the "give way" vessel move at once, and forfeit her next turn with the dice. Such a "give way" move might be limited to, say, two squares, but

experience is probably the best way to decide whether such a penalty is fair. If the "give way" boat is so hemmed in by other vessels, buoys or ,the shore that she cannot move , then a collision will-occur and a protest be lodged . In this case the "stand on" vessel might be ruled "undamaged" and allowed to proceed, the other being obliged to retire.

Once the general principles have been mastered, additional manoeuvres can be introduced. For example, a vessel being overtaken on tier windward side might be allowed to luff if the overtaking vessel is in the line of squares parallel to and next to her own. This might be done by permitting her to move a square sideways in lieu of her next move.

Calls for "Water" might be permitted to prevent a yacht moving into a square which would result in a yacht's next move inevitably driving her ashore or on to a mark. At this stage there is a need for a pack of "chance cards" to add to the uncertainties and also for some system of awarding the right to draw them. One method might be a six thrown on the dice; another would be to mark some squares with a "C" or lay out some transits so that yachts crossing these should draw a card; yachts obliged to forfeit a move by giving way to another might also be included. Whatever be the method of allocating them, the cards themselves should be both realistic and varied. Some should apply to the individual yacht, others to the whole fleet:

"You have a slant of wind in your favour and may move two squares to windward" (Individual)

"The wind has backed four points" (General)

Some cards should be adverse in their effects and some advantageous; a number should be quite unpredictable.

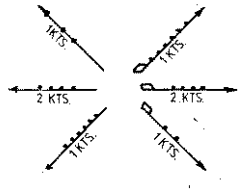
"Man overboard . Miss a turn while you pick him up" (Adverse)

"You have caught a puff of wind in your favour, move two extra squares" (Favourable)

"A squall drives all boats three squares to leeward" (Unpredictable)

The next step is to introduce hazards of one kind and another and this is best done by marking out the cloth as a chart to show land, rocks, shoals, wrecks etc which cannot be crossed. Tide rips and overfalls might exact a penalty of half speed (after adding one to any odd number thrown by the dice). "Fablon" is a good material for doing much of this by an "applique" technique and the result can be both effective and decorative. Tide is well worth including as it makes for forethought in planning strategy. A tide rose (See Fig. 4) could show six different directions of tidal set., three for flood and three for ebb . The speed should be lettered beside each arrow and two,four or six dots be marked on each shank to show that it applies to the first two hours of the tide, the second two or the last, two. Dice thrown at the start of the game will settle whether the flood or the ebb is running (odds for flood, evens for ebb). A second throw will decide how long the tide has run. For example, if the first throw is a five, this is odd, the flood is up; if the second throw is a four, it is four hours after low water and the arrow with four dots on its shank will apply. At the next move, the arrow for the next two hours will govern the tide, ie., the one

Fig 4



TIDE ROSE

Arrow 'A' shows a 2 knot East running tide during the 3rd & 4th hour after L.W feathers shows flood tide

with six dots on it. Two moves later, the tide will have turned, after high water and the ebb arrow with two dots will come into operation. Provided the chart is clearly divided into sectors by pecked lines, a number of different roses could be included.

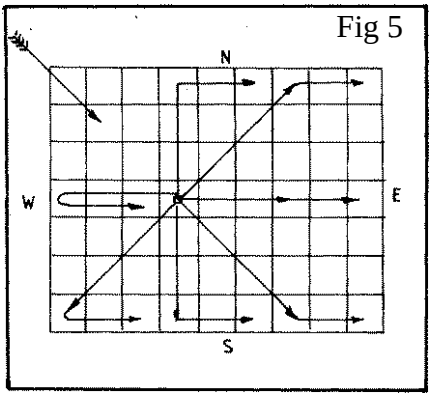


Fig 5

Fig. 5 shows the effect of a two knot East running tide and a North Westerly wind on a boat moving three squares. All boats in the fleet are similarly affected by the tide in the area in which they happen to be.

It might even be worth introducing a chance card: "It has fallen calm for two moves" (especially some parts of the chart might be marked "No anchoring" and anchoring could be counted as a move).

Some shoals might be of sufficient depth to allow a boat to float over them two hours either side of high water. In this case, should they go aground on the edge during the early part of the flood, all is well, the tide will rise and float them off. If they are over the shoal and the tide falls away to leave them stranded, too bad, they must wait for the tide to fall and rise again before getting under way. This pattern could be further complicated by having shoals with three contours of depth showing sufficient water at 2, 4 or 6 hours after low water. To ensure that a clear record of the tide is kept, it is as well to have a tide arrow to be moved after every two turns. If this is provided with a marker to show the "hour of the tide", so much the better. (See Fig. 6)

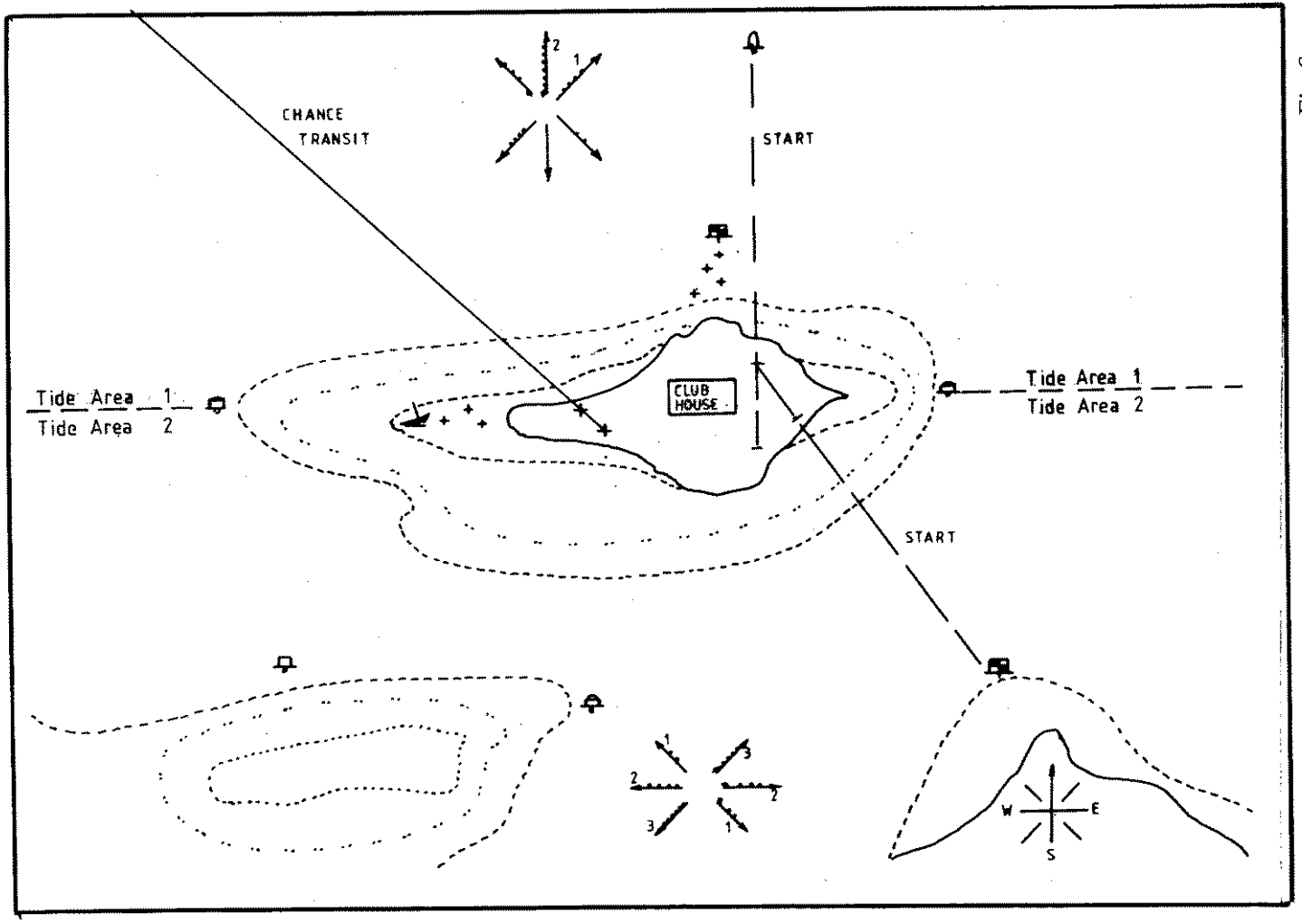

CHANCE
TRANSIT
START
CLUB
HOUSE
Tide Area 1
Tide Area 2
Tide Area 1
Tide Area 2
START
W
E
S

Fig 6

Another problem to complicate the game might be a "commercial ship channel" with large vessels moving at fixed speeds in them and a local rule requiring yachts to give way. Instead

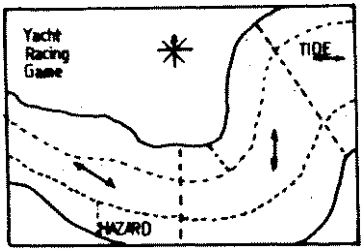
of a standing start, it might be possible to have a "five minute gun" signifying five moves before the start and allowing each boat to choose her own square behind the starting line before the wind top is spun. Two or more races could be run simultaneously with' each starting say five moves after the last has cleared the start. In this case, of course, it is as well to have different classes of boats, each with its own clearly recognisable colour and shape of sail.

The foregoing only suggests general ideas; clear-cut rules of play will need to be devised and written down as the game develops . To speed up play and reduce the element of chance, it might be worth while experimenting with a fixed maximum number of squares to be moved on each point of sailing, thus dispensing with the dice. This will have the effect of placing less emphasis on luck and giving the prizes to the most able helmsman but it would make play too tame if it were introduced before all the hazards and complications had provided the opportunity for skill to shine.

BWL

YACHT RACING GAME - AN ALTERNATIVE IDEA

THE BOARD is a sheet of perforated hardboard with



½"centre holes. A useful size is about 3' x 4' but a smaller piece would be adequate. This should be painted to roughly represent your usual sailing water. The land areas could be yellow, slack water light blue, the faster water a dark blue. The direction of the tide, ebb and flow, should be marked off in definite areas with lines following a line of perforations.

A WIND DIRECTION ARROW of card or ply fitted with a peg, 3/16"diam. to rotate on a compass rose painted on the board.

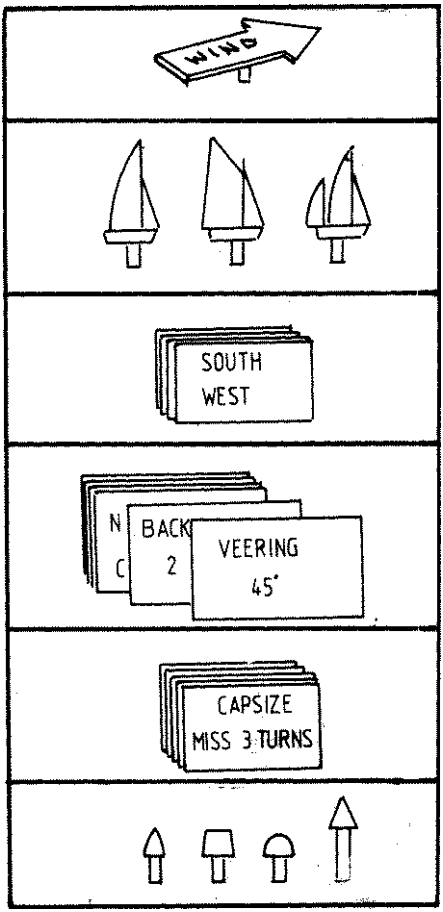
COMPETITORS BOATS of thin ply glued to 3/16" dowel . These could be one design painted various colours or various rigs for instructional purposes.

WIND DIRECTION CARDS showing eight points of the compass with a few extras for the prevailing wind in your area.

WIND CHANGE CARDS showing veering and backing 45°, 90° and some with NO CHANGE

.HAZARD CARDS for turning up when a boat crosses a hazard line painted on the board where things are likely to happen. e.g. Capsize - Miss 3 Turns, Run Aground - Miss 1 Turn, Lucky - Carry On

A set of Navigation buoys, Racing buoys and metes of ply with pegs must be included. If the buoys could be turned from the solid so much the better.



RULES AND PROCEDURE

1. A course is decided upon and the buoys laid out.
2. High and/or Low Water times are decided.
3. Wind direction card is drawn from the pack and the pointer set.
4. Wind change times decided.
5. Moving in an anticlockwise direction, competitors place boats in any position and direction they choose.. When the last one is on the water, the race starts, moving in a clockwise direction , competitors crossing the starting line correctly .
6. The winner of the race is the one, who after moving round the course correctly, crosses the finishing line first.
7. The moves are made as follows:-

Directly into the wind	0	0
Closehauled	3	6
Reaching	5	10
Broad reaching	4	8
Running	4	8

The second set of moves makes a quicker game and should be used when there is a large field or a long race. These moves really represent the wind strength and could be varied during the race to make it more realistic.

8. Allowance for tide. Move finishing in full current area, move a further two places in the direction of the tide. Finishing in slack water area, move a further one place in direction of tide.
9. To change direction, turn boat through the required angle, move one place and then allow for the tide.
10. A boat must be moved when its turn comes but not necessarily the full number, tide must be allowed for.
11. If a hazard line has been crossed, a Hazard Card must be turned over and the directions on it followed.

N .B .It will be impossible to sail to the R.Y.A. racing rules exactly but the principals should be followed if any differences occur.

W. B. Keeble.