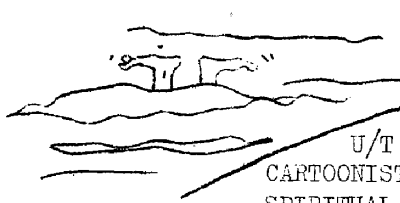
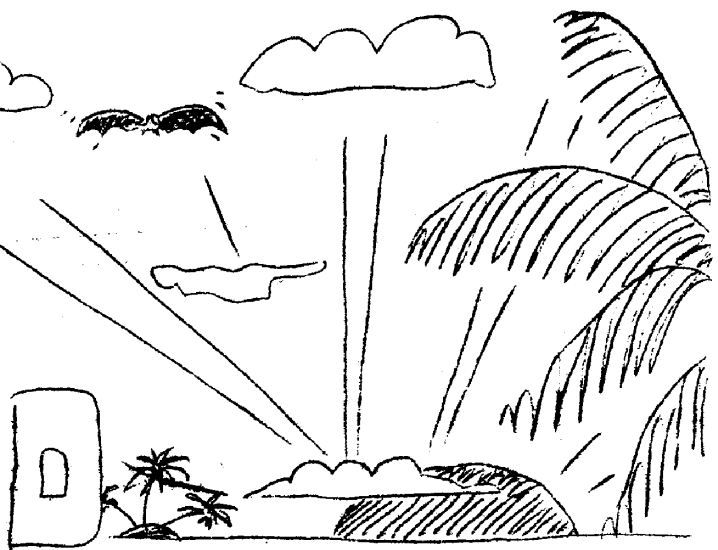
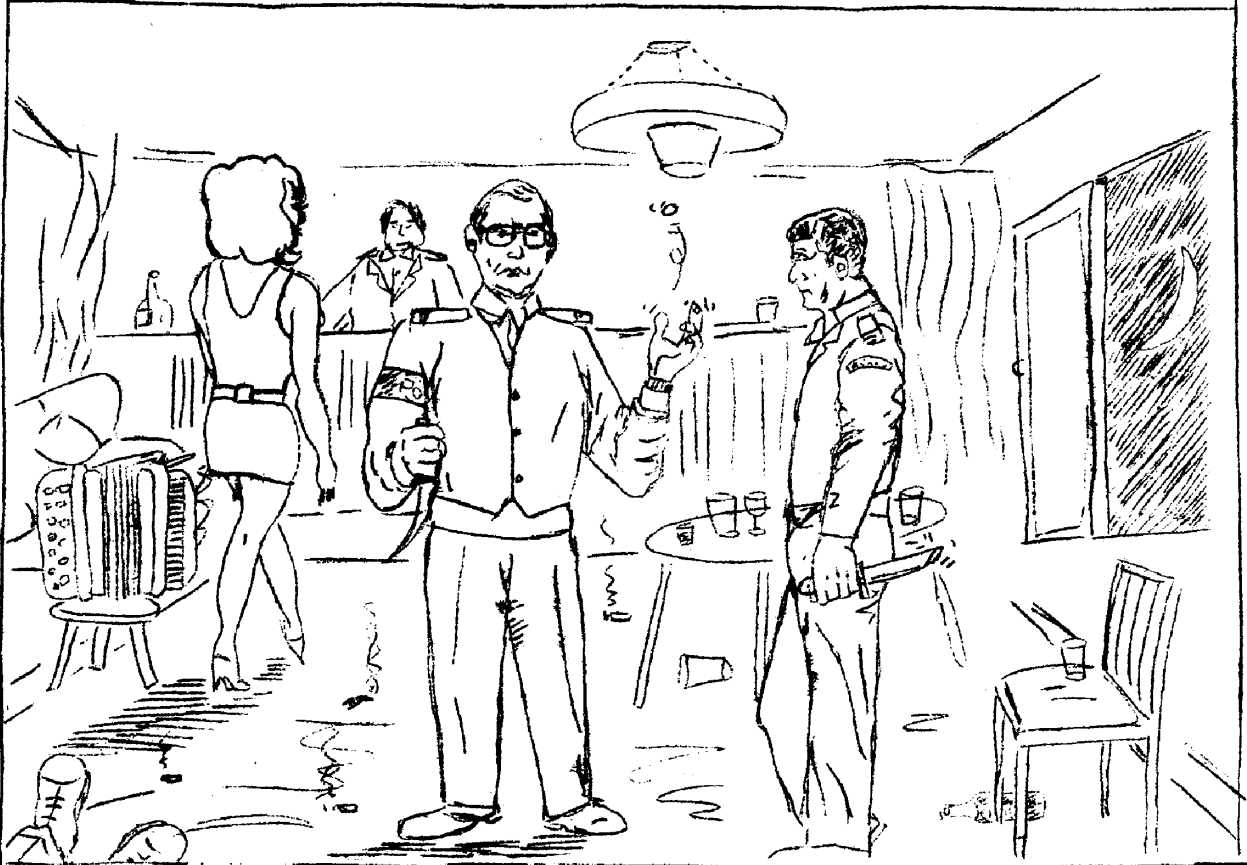


GAN ISLAND POST



EDITION NO. 249
 EDITORS: DAVIES & DAVIS
 U/T REPORTERS: SCOOP & NABLA
 CARTOONISTS: MIK AND CJP
 SPIRITUAL HELP: LEGS DIAMOND



"WE SHOULDN'T REALLY HAVE TO SPIN FOR IT, YOU TOOK HER HOME ON THE FIRST NIGHT"

COMMENTS

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GUEST EDITORIAL FROM 2 MESS BAR BEFORE DEPARTURE AT 122345E
by JAMES McLIE

Now that I have finally come to the momentous decision and announced that I like it here, I feel that this is the moment for the dramatic reappraisal (particularly since the "Powers that Be" have since firmly refused my application for extension of tour).

Reappraisal coming up. I well remember the first impingement of Gan and vice versa. As my somewhat myopic eyes swept the magnificent panorama from the vantage point of the Comet steps I understand that I was heard to remark the immortal words "HIC, HIC". Since then I have rarely looked back.

Highlights? Falling off the bar stool of the Marine Bar on making night.

Lowlights? Having my fingers heavily trodden on whilst walking home from the Marine Bar on Saint Andrews night.

Headlights? The sudden discovery that the Radio Sonde "Herren" had been converted to flush-type three weeks ago. This obviated a two mile cycle ride always against the wind (both ways) each morning.

Tail Lights. That my long announced prophesy that we will hear an enormous slither, slither and people will scream "Aice, the night of the cowries has come" and all men will rush off into the sea. Hasn't happened YET - but wait for it men!

What have I done for Gan? Spread, when required, a certain amount of alarm and despondency, leavened I like to think, with just a trace of levity.

"God bless us one and all!" Cried Timy Jim, waving his crutch.

HAVE YOU HEARD

1. That the Fire Section billet is air conditioned throughout and Rocki Didi had brake trouble as well?
2. That the Movements Mini was all lit up and the Fire Extinguisher was under the seat?
3. That the Cossack walked round the island?
4. That the Laird had a very difficult hand over and Tom hasn't got a Kerr?
5. That Bill took seven wickets and batted like a master but a certain Chf Tech still got his letter in on time?
6. That the new Mr. 10 per cent thinks cigarettes should cost s1/3d per CARTON?
7. That the new Admiral took over and the deputy went on leave?
8. Mooney Met Men are all the rage in January?
9. Terry was seen disappearing into the Bondu with his new shovel?
10. That the S Ad O had a restful afternoon last Sunday?

THIS WEEK'S QUOTE FROM KEITH

"There's only two people who can really play a leg sweep. Gary Sobers and me".

NATURE NOTES by SMOIAN

"Write something for GIP" they said and I said "who me?" and they said "yes you why not". "Well", I said, I never wrote for anything before". Except once, I wrote for a cure for a red nose that was advertised in the paper enclosing 2/6d. All I got was a reply in an envelope saying drink till the beggar's blue; I didn't try it, being a bit pushed for booze money at the time and anyway it was beginning to fade again.

Well it's nice to be helpful and you can't have the same people writing the same stuff all the time, so I said "I'd have a bash". But it is very difficult finding something to write about that will be sort of gripping and interesting to the average well-informed GIP reader.

It would be nice to write something like I was a teenage junkie, but it wouldn't have the ring of truth, if you get me, because I never was hooked on anything - although I only kicked the bubble gum habit after a long struggle. What I say is you've got to stick to something you know and understand like the Quantum Theory, which I would stick to if I knew and understood it but only Mr Quantum himself does that I expect.

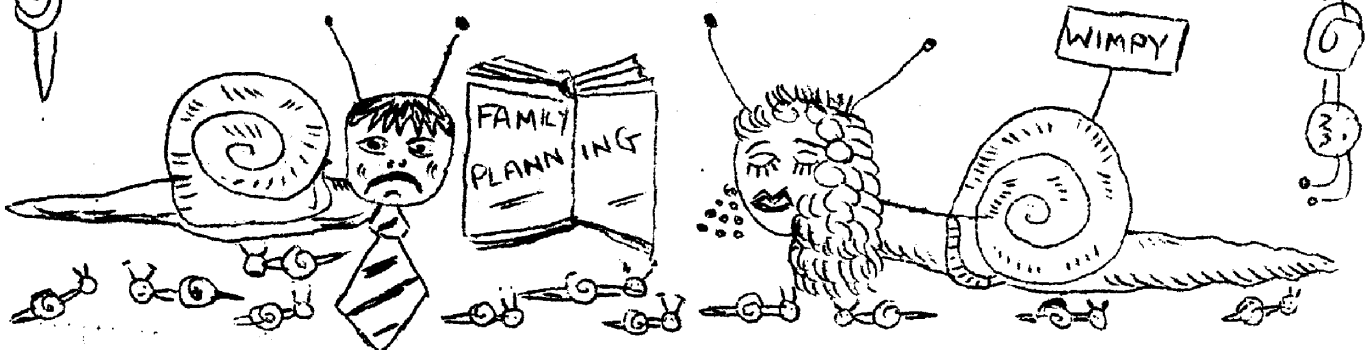
No it has to be something you really do know all about and other people don't, but would like to if they had the chance. The mating habits of snails is a subject that I feel comes into this category of subjects, although most people probably think of snails as objects rather than as subjects - if they ever think of snails at all - which more than likely quite large numbers of people never do unless they happen to tread on one. But I think the mating habits of snails are very interesting, and if nobody else does I shall be quite surprised by the time I've finished.

You see they don't have boy snails and girl snails: they have sort of boy/girl snails or girl/boy snails, and they call them hermaphrodites. That is your actual Greek and it comes from the myths of ancient Greece and that. Which isn't surprising when you think of some of the things they used to get up to in the classics, but anyway it means that every snail has a complete do-it-yourself kit and yet the funny thing is they don't. Do it themselves I mean. They do it to one another, which is probably more interesting really at least for the snails.

Now one part of this kit is like a white spot about where your right ear would be if you were a snail, or more likely if a snail were you - which is ridiculous I know but you know what I mean. When the snails get in the mood this white spot grows and grows until it's like a kind of spike that sticks out like an ear-trumpet, only the other way round with the narrow end out. Of course they have their other horns too, the ones with the eyes on the end that pop in and out like periscopes, but they are quite different and are used for other purposes altogether like seeing where the rest of the snail is going.

To get back to the mating of the snails you have these two snails who have got the idea of producing more snails as part of life's glorious and ever-changing pageant, and they both have their outside-in ear-trumpets at the ready. First they get sort of coy and cosy in a slimy way and begin to slither about a bit and finally they put their ear-trumpets together and that's it. After a bit they go and lay eggs in damp soil somewhere, and you eventually get your actual baby snails to complete the wondrous cycle of nature.

When I showed the draft of this article to the editors one said this is pure garbage and the other said well it'll save us writing some ourselves and anyway I hope they print it so my literary efforts aren't wasted. I hope to do a piece on "The Red-rumped Baboon" and "How It Got That Way" in a future Nature Notes column.



SALINITY AND TEMPERATURE

It is customary to distinguish between the chemical and the physical properties of sea water, but these are in some ways inseparable. For example, salinity would be considered a chemical property; but salinity can be determined by relative weight (specific gravity), freezing point, or electrical conductivity, all of which are physical properties. In general, the chemical properties of sea water are those that can be determined by chemical analysis, whereas the physical properties are those that can be determined by weighing or measuring. But the differences are mostly procedural; the results of the study of sea water by physical or chemical means generally are in agreement.

Of the various physical properties of sea water, several are of particular interest—temperature, specific gravity, electrical conductivity, pressure color, and viscosity.

On the Centigrade scale (which is generally preferred to the Fahrenheit scale for ocean temperatures) the total range of temperature in the ocean is from -1°C . to 30°C . (about 30.5°F . to 86°F .). The -1°C . temperatures are found throughout the year in the Arctic and Antarctic Oceans, and the highest temperatures naturally occur in the tropics. Generally speaking, surface temperatures in tropical waters do not exceed 27° to 28°C . (80.6°F . to 82.4°F .), but in partially landlocked areas they may go higher; for example, August temperatures in the Caribbean reach 29°C . (84.2°F .) and in the Red Sea, 30°C . (86°F .). The Red Sea in summer thus contains the warmest ocean water in the world.

In temperate climates, in both the Northern and Southern Hemispheres, surface temperatures are generally within the range of 15° to 25°C . (59°F . to 77°F .) in summer and 10° to 15°C . (50°F . to 59°F .) in winter. The range is so wide because local conditions vary according to ocean currents, prevailing winds, and upwelling of bottom water.

As a rule the temperature of the sea decreases rapidly from the surface downward. In summer in temperate regions, and almost always in the tropics, there is a layer of warm water at the surface produced by direct heating from the sun. This may be anywhere from one to ten or even more fathoms; but at the lowest level of this layer there is as much as a 3° to 4°C . (approximately 5°F . to 7°F .) drop in temperature. Beyond this, the temperature decreases rather slowly and regularly to the bottom.

Persons accustomed to swimming in fresh-water lakes will have noted a similar phenomenon. The surface waters, receiving the sun's radiation, are warm and comfortable; but a deep dive will take one suddenly into colder water. The reason for this abrupt change is that the warm water is lighter because water expands when it is heated; thus it literally floats on top of the colder water. The point at which this sudden temperature change occurs is referred to, whether in fresh or salt water, as the thermocline. This is of practical importance: tuna fishermen drop thermometers into the water because tuna, being warm-water fish, will always be above the thermocline.

Below the thermocline, where the temperature changes abruptly, ocean temperatures decrease gradually with depth till, at a depth of a mile or more, they approximate 0°C . (32°F .). This is true even at the equator. Bottom temperatures in the temperate zones are seldom significantly different from those in the tropics. Occasionally small differences may, however, give a clue to whether the bottom water has come from the north or the south.

Surprising.....

Supervising as it may seem, the temperature of ocean water in the Arctic and Antarctic may fall below the freezing point of fresh water, and bottom water in the depth of the ocean does not freeze although it may be at 0°C . (32°F .) or below. This will be readily understood by anyone who has ever melted the ice on a frosty pavement by putting salt on it. Salt lowers the freezing unless the temperature goes lower.

When salt water does freeze, the salt is not frozen in it but is, so to speak, "frozen out." For example, the ice that forms at the surface of the Arctic Ocean is essentially fresh, containing only such particles of salt as may have been trapped in it during the freezing process; when melted, it provides good drinking water. A consequence of the "freezing out" of salt is that the water beneath the Arctic ice pack becomes more saline as the surface freezes.

As we have said, there is a relation between salinity and specific gravity. Specific gravity is simply the weight of a volume of sea water compared with the weight of the same volume of distilled water at a standard temperature - by definition 4°C ., but often for convenience 17.5°C . (63.5°F .) or 20°C . (68°F .). The most accurate way of determining specific gravity is to weigh a measured sample of sea water at standard temperature on a sensitive analytical balance. A simpler method, valuable when extreme accuracy is not required, is the use of the hydrometer. This is a glass instrument with a weighted bulb at the bottom that causes it to remain upright in water and a stem at the top marked with a graduated scale. The depth at which the hydrometer floats, as registered by the water level on the stem, gives a measure of the specific gravity of the water. A large hydrometer, with a long enough stem and a sufficiently expanded scale, would be just as accurate as an analytical balance. But glass hydrometers are small because of the danger of breakage; so the readings made on them are not precise. One disadvantage of the analytical balance is that it cannot be used in rough weather.

As has been indicated, both salinity and temperature affect the specific gravity of sea water, and their effects are interrelated. Water with such a high salt content that it would be expected to sink toward the bottom will float at the surface if it is sufficiently warm. Conversely, water with a relatively low salt content, which might therefore be expected to remain at the surface, will sink if it is sufficiently chilled. The latter normally occurs at the edge of the Arctic and Antarctic regions, where the sea water is both diluted and cooled by melting ice.

These factors greatly influence the circulation of water in the ocean. The basic circulation is determined by the differential heating of the water between the tropics and the polar regions, and the swirl created by the earth's rotation. The swirl is emphasized by prevailing winds, which themselves have the same origins - the differential heating between tropical and polar regions, and the rotation of the earth. Local conditions, such as the contours of the floor of the sea and upwelling of bottom water, also affect circulation.

A highly important factor, one without which life could hardly exist in the oceans and might even not exist on earth, is the circumstance that water reaches its maximum density, or highest specific gravity, at 4°C . (39.2°F .), that is, four degrees above the freezing point. As a consequence, freezing water and ice expand and have a lower specific gravity, so that they float on the very slightly warmer water beneath. If water attained its maximum density at its freezing point, the ice would sink, and all of our deep lakes and the ocean itself would be solidly and permanently frozen, with only a shallow layer of water on top, melted by the sun.

