

undercurrent®

THE PRIVATE, EXCLUSIVE GUIDE FOR SERIOUS DIVERS

P. O. Box 1658, Sausalito, California 94965
Cable Address: Gooddiving

Vol. 11, No. 11 & 12

November/December 1986

Travel Reports From Our Readers: Part I

-- *The Best And The Boring*

"I want an update," writes Frank Reason of San Francisco. "I can't keep up with the changes in resorts."

Now that San Salvador has reopened, is this Bahamas outpost as good as it once was? What about Neal Watson's place on Andros: are the readers still recommending against it? Any new places in the Caribbean? Any good diving anywhere on Jamaica? What about those islands in Australia's Great Barrier Reef: worth the trip or should one only dive a liveaboard there? And what about the trips Undercurrent praised when our readers thought we were all wet?

Whenever the time seems right, which is every eighteen months or so, we offer comments from our readers to provide a candid update of diving and living conditions on boats and international resorts. To use these comments to your advantage, remember that Undercurrent has been publishing first-hand reviews for more than eleven years. By referring to these past reviews (you may order them from the publisher) while reading the comments of our readers you can get a pretty fair picture of the resort.

Even if our review is several years old, there are some constants. If we didn't like the diving then, it's unlikely it's improved (unless new people have found new sites). The resort setting will remain the same, but the food and service can change. By looking at both old reviews and new comments, one can get a pretty fair picture of potential destinations.

Now, enough for the introduction. Here's what our readers -- and I -- have to say.

BAHAMAS: The t-shirts say "It's Better in the Bahamas," which ain't necessarily so. There's some pretty fair diving there -- and some poor and

INSIDE UNDERCURRENT

Bareboats Rentals	p.3
Cuba And Calypso	p.5
Divers Alert Network	
-- <i>A Call For Help</i>	p.6
Go For It, DAN	p.7
The Next Generation Of Technology	
-- <i>Is It Only Fantasy?</i>	p.8
Choosing A Buddy	
-- <i>Who Fit With Whom—And Why</i>	p.10
Matrix Of Interpersonal Attraction	p.12
Electronic Dive Computers: Part II	
-- <i>A Firsthand Report</i>	p.13
Diving And Forgetfulness	p.16
Dear Undercurrent	
-- <i>Words From Our Readers</i>	p.17
Free flow	p.18

mediocre diving. There's a lot of shallow water with patch reefs and small fish, and once in a while a diver can get stuck making only those kinds of dives. Serious divers have nothing to cheer about at Nassau on New Providence Island, so the smart ones report they go 40 minutes out of town to dive with the Coral Harbor Divers who not only can get to the wall, but also to some of the paraphernalia left over from old James Bond thrillers (call 809/326-4171).

Readers don't make much noise about Freeport on Grand Bahama Island. UNEXSO is the major dive operation serving all hotels and several readers, we're sorry to say, have complained in the last year that the staff was "less than helpful -- most of the time indignant," "rude and nasty," and "they amazed me with their arrogance and posture." That's not sweet stuff. Chris Duke (Austin, Texas) says: "All diving is one tank, so too much time is spent getting back and forth. Too many dive sites are shallow reefs killed by too many turkey divers. Good dives like Theo's Wreck fill up fast, so sign on early." Several readers complained of an unsafe practice: no one remains aboard the dive boat during a dive. Tavi Fulkerson (Ann Arbor) had another view: "Excellent dive operation. The people are really pros, interested in conducting safe and exciting diving." These sorts of mixed comments remind me of restaurant reviews: it depends on what day you were there. (809/373-1244). . . . One reader who didn't include his name says for eight years he's gotten good diving from Nick Rolle at the Silver Sands Hotel (809/373-5700). Nick has "always been helpful, friendly, and once he establishes that you're experienced, he'll take you on dives that he doesn't offer the average puffer." In the main, Freeport is not for the serious diver.

Rum Cay is for serious divers. Nondivers, who have to battle boredom and many, many bug bites, need not go. Barbara Murphy (Dunwoody, GA) writes: "Great caves, tunnels, and coral canyons; unspoiled underwater scenery and good fish life; the first dive each day was to 100+ feet, but the bulk of the beauty is in the 50 foot range." Tom Miller (Bethesda, MD) says: "The divemaster, hotel manager, boatman and all employees could not do enough for the guests. Room amenities were great, the food terrific." Nearly every reader speaks well of the fish life, but Alan Friedland (North Miami) has a minority report: "It is possible that my family and I caught the reefs on an off week last year, because there was little fish life other than large feeding groupers in one spot." (305/467-8355; call collect)

Riding Rock Inn on San Salvador is back, Jack, and the hard core divers love it. Adrian Boie (Cincinnati) says: "I've made 14 trips to the Caribbean, and this rates as well or better than any -- big fish, variety of depths, and three dives a day with no effort." From Miami, Eddie Rhodes writes: "The diving was tremendous, the dive guides genuinely friendly and helpful. The outstanding quality of this operation, the attention to detail, and superior services deserve commendation, praise and support." Even the rooms are nice. Eddie also writes that he dived from the beach where Columbus first landed when he discovered the new world. Erase that from your log book, Eddie. The National Geographic just reported Columbus landed on another island, 60 miles away. But there's still plenty of excitement. In July, Barbara Murphy (whom we quoted on Rum Cay) said she saw 6 12-foot hammerheads on every wall dive, and even 20-foot bull sharks.

Copyright 1986 by Aicom Inc., Aicom Building, 2315 Broadway, New York, NY 10024. All rights reserved. *Undercurrent* (ISSN: 0192-0871) is published monthly by Aicom Inc. Copies of this guide are not available on newsstands, but are furnished directly to the diving public by mail subscription only. To maintain its independence *Undercurrent* carries no advertising. Permission to photocopy articles herein is granted by Aicom Publishers, Inc. to libraries and other users registered with the Copyright Clearance Center (CCC) for internal and personal use only at the base fee of \$10 per article plus \$1 per page paid directly to CCC, 21 Congress Street, Salem, MA 01970. Serial Fee Code: 0871/85\$10+\$1. Other copying by any electronic

or mechanical means, including information storage and data retrieval systems, without the expressed written permission of the publisher are strictly forbidden. News media may use no more than one quarter page of material per issue, provided that *Undercurrent* is credited. POSTMASTER: Send address change with old label to *Undercurrent* Newsletter, 2315 Broadway, New York, NY 10024. Second Class Postage paid at New York, N.Y.

If you wish to receive the accurate, inside information *Undercurrent* offers, please send your check for \$32 (U.S. funds) to *Undercurrent*, Aicom Building, 2315 Broadway, New York, NY 10024-4397, and get a valuable free gift.

For Eleuthera's Spanish Wells, one reader wrote that after several "beginners" dives, he told the divemaster he wanted better and got good caves, some shark shots, and so forth. Here one can ride the Current Cut, a 200-yard trip with the tide which sweeps you at seven knots. I took this ride several times ten years ago and it's a great thrill -- right past feeding cudas and other critters. (800/327-5118; 305/791-5118; 809/332-2465). . . .For a more posh place readers give high marks to the accommodations, food, and setting of the Ramora Bay Club, and find the diving decent as well. . . .Stella Maris on Long Island? Carl Mintz (Washington, D.C.) sums it up: "Except for Shark Reef where you're certain to see sharks, the diving was boring for us regular divers. The boats were uncomfortable and crowded." . . .John Skelton (Dallas) tells us there is a great wall and miles of staghorn and elkhorn on Crooked Island. "There's a dive operation at Pittstown Point, but I found a local divemaster, Ellie Moss, who was excellent. This is like Cayman ten years ago," he says. . . .Readers are still complaining loudly about Neal Watson's Andros Undersea Adventures at Andros Beach Hotel. As Rita and Bob Shapiro (Sacramento, CA) write: "The main dive boat broke down and if by chance a motor boat hadn't arrived, we wouldn't have dived for three days; tanks were rusty and ancient; the dive master was indifferent to wishes of the group; a promised night dive and makeup dive never occurred." Alan Klien (Charleston, S.C.) says it seems that "management is keeping the diving staff to the absolute minimum and not properly equipping and maintaining the dive boat. The place is an embarrassment to the dive industry." We have plenty of other howls from our readers, including complaints about the personnel, some of which are unprintable. When will this charade stop and the service be brought up to decent standards? . . .If you're stuck on Andros, go over to secluded and rustic Small Hope Bay Lodge. It's got a long history of good service to the diver, with pretty good diving, hearty food, and good folks taking care of you. (800/223-6961; 305/463-9130; 809/368-2014). . . .Says reader Bill Quesenberry (Coral Gables, FL) of the Treasure Cay Hotel: "Outstanding operation, so new the word has not spread; reefs are still virgin; underwater catacombs, arches and caverns are extensive and interesting; two new dive boats with enthusiastic and personable management." (305/763-5665; call collect)

Bareboats Rentals

One way to dive the Caribbean or the Pacific is to rent your own boat. If you're a skilled sailor and have faith in your crew, you can lease a bareboat, provision her yourself, add your friends for crew, and go anywhere you want for as long as you want. If you want a crewed boat, provisioned and operated 24 hours a day so your only concern is whether you want to mix a margarita at sunset or take your fourth dive, then that too can be easily arranged.

The following operations can provide charters for you. Be sure to specify that you are a scuba diver so that tanks will be included and, if possible, a compressor will be on board.

**Dynasty Yacht Charters International*, 1323 S.E. 17th St., Suite 261, Ft. Lauderdale, FL 33316. 305/522-4654. Caribbean, South Pacific, Australia. Bareboats, \$1,000-\$35,000/week; crewed, \$2,000-\$70,000/week.

**Nicholson Yacht Charters*, 9 Chauncy St., Cambridge, MA 02139. 1-800-662-6066. South Pacific, Caribbean. Bareboats, \$1,540-\$1,995/week; crewed, \$1,800-\$19,000/week.

**North South Yacht Charters*, P.O. Box 59, Buffalo, NY 14025. 1-800-386-4964. British and U.S. Virgin Islands. Bareboats, \$1,225-\$2,800/week; crewed, add \$385 per week.

**Ocean Voyages*, 1709 Bridgeway, Sausalito, CA 94965. 415/332-4681. Australia, Caribbean. Bareboats, \$960-\$2,500/week; crewed, \$595-\$1,050/person/week.

**Regency International Yacht Charters*, Long Bay Road, St. Thomas, U.S. Virgin Islands 00801. 1-800-524-7676. Caribbean, South Pacific, Australia. Bareboats, \$600-\$3,000/week; crewed, \$900-\$5,000/week.

This listing courtesy of *International Living*, a newsletter available by subscription for only \$45/year: 824 E. Baltimore St., Baltimore, MD 21202.

Readers seem to have a ball on Blackbeard's Cruises, and for a tab in the neighborhood of \$525/week the price is unbeatable. They have several boats, tour various islands in the Bahamas and have substantially improved their food since our October 1984 review. Dive sites range from simple to good and though not especially a dive cruise, our readers aren't complaining. (800/327-9600; 305/888-1226). . . .Bill Streit (Lutz, FL) can't wait for another trip on that new craft, the Sea Aggressor: "Captain and crew knowledgeable, helpful and always smiling and ready to assist; salon and stateroom air-conditioned and comfortable. Food good and snacks always available. A well-designed boat." (415/771-0077; 713/420-3270)

BELIZE: Fred Goode at St. George's Lodge gives highly personalized service and, readers say, incredible diving: "Dived with turtles, mantas, sharks, huge parrots, lots of lobsters, giant groupers, and enormous french and queen angels," writes one reader. Claude Menard (Geneva, Switzerland) says: "It's just as good as Undercurrent's August 1980 review; the perfect spot for people who want top diving, top food, and nothing else to do." And there is nothing else to do, since the lodge is on a tiny island miles from nowhere. The mosquitoes and sand fleas are excessive. (800/632-0032; 214/341-5577)

We continue to get mixed comments about Ramon's Reef Resort and not having been there, I can only report what our readers say, which, for the most part, is that the diving is usually good (if you can get to outside the reef -- April and May and later are the months -- and the guides are cooperative), but there is uneven treatment at the hotel. Alan Cleveland (Manchester, NH) writes: "Ramon has the best dive shop and boat support in area; safety is primitive, but dive guides are experienced, helpful, flexible and serious. The guides, the kitchen and the bar are great." Then there are these words from Margit and Jim McLennan (Toledo, OH): "When we told the divemaster we didn't like the dive, we were told that we would be given one more chance and if we didn't like that dive, we couldn't go out again; we're experienced and had to push for good diving. We got to ride a turtle, but then it was butchered for the stewpot before our very eyes. Ramon was always friendly, but breakfasts in his restaurant were always a disaster." Says Jacob Rosenstein (San Francisco): "The hotel was disorganized and overbooked; I got horrible treatment." (601/693-1304). . . .Rosenstein says: "I got the best diving on a two-day trip to Lighthouse Reef and the bluehole on the Reef Roamer II." (Now the Princess Charters: 713/486-6993 or in Belize at 45841)

Generally, hotel service and diving is unpredictable on Belize's Ambergris Caye, since the April through July diving can indeed be great -- other times the wind can prevent boats from getting outside the reef and there are no guarantees even in these months -- and the life style is something out of the past. If I were going to Belize I would not prepay my hotel or my diving (we ran into problems with that at Captain Morgan's: see Undercurrent, September 1986). With the exception of the Christmas holidays, if you're dissatisfied you always find other lodging and other people to take you diving. . . .Two well-traveled readers thought little of the diving out of Turneffe Island Lodge on Caye Bokel. Mike Vidmar (Longmont, CO) says: "Food poor, accommodations sparse, divemasters poor, and although we had two great dives, the rest of the time was wasted on dead coral." Jeff Chavetz, who led the trip, says: "I find it absurd that these people have the gall to charge more money for a dive trip than, say, the Flamingo Beach in Bonaire." (800/772-1002; 713/659-3232)....A promising new hotel, the Journeys End Caribbean Club will open soon; it might be the first to bring a professional dive operation to a classy resort setting on Ambergris Caye.

No doubt the way to reach the best waters of Belize is by live-aboard boat. Our readers recommend two very highly. Stu Williams (North Platte, NB) writes:

I have been on nine different live-boards and none was as nice and spacious as the La Strega. And I've never seen reefs or fish life that could compare with Lighthouse Reef. Food good, divemaster Hugh Parkey excellent. Highly recommended." (800/854-9334; 714/664-5344). . . "Diving from Isla Mia very rewarding," says Robert Karas (Riverside, IL). "Great wall diving, with lots of fish; went from 35 feet to 140 feet; food very good and well-prepared." We reviewed the Isla Mia in June 1980 (800 DIV-XPRT; 415/771-0077). . . And with the owners of the Cayman Aggressors I and II building a third boat, expect to see one of the three brought to Belize soon.

BONAIRE: You can't go wrong on Bonaire with its lush coral gardens, tropical fish varieties, and alive reefs. With limited exception, each operation visits the same sites and each, although styled differently, provides capable service. There's fine diving off every hotel beach, so unlimited diving is indeed unlimited. We have written ad nauseam about Bonaire and reviewed it just last January, so use back issues as a further guide. The Carib Inn, a simple seven-room inn, is the headquarters of Bruce Bowker, who runs a small personalized service. Paul Eikenbary (Gibsonia, PA) writes: "My second trip. Bowker worked hard to see that repeats, new, experienced and inexperienced divers all have the best time possible. When he said we'd see seahorses, we did. At a 'secret spot' within 100 yards of each other, we saw three large nurse sharks, three large tarpon, a 5-foot moray, and a couple of stingrays. This is the classiest, most intimate operation I've seen and I've dived a lot of places." There is no food service at the hotel, but restaurants are a short walk away (call 011-599-7-8819).

Cap'n Don Stewart runs the Aqua Habitat, which one diver claims has "primitive" accommodations; another calls them "adequate." But the Captain gets good marks for his meals and his friendliness. Eric McClary (Carson City, NV) writes: "The Habitat lived up to its reputation for a warm communal atmosphere." Pat and George Adams (Tucson) say: "Captain Don is the character everyone said: staff was helpful in and out of water; checked us out on arrival, then let us dive freely; boats not crowded (never more than 12), and unlimited beach dives on the great reef right out front." (802/496-5067)

Flamingo Beach is a DIVI Hotel and a Peter Hughes operation which may be

Cuba And Calypso

In the last decade, Cuba has occasionally permitted outsiders to dive its waters, but they haven't permitted much reef reconnaissance. We've suspected that good diving abounds, but no one can get at it. That is, no one but Captain Cousteau and his divers, whose special has just appeared on PBS channels. Here's a report from a recent Calypso Log sent to members of the Cousteau Society: "One by one, the diving team climbed on deck and one by one they broke into broad warm smiles. 'Fantastique, fantastique,' they said almost in unison. [Said Captain Cousteau]: 'Absolutely, fantastique. . . I have never seen anything like it -- a ballet of tarpon -- everywhere. . . The richness of life underwater around the sunken vessel Colon kept Calypso anchored there for several days. . . The split and rusted hull had become a haven for a wide variety of fish, particularly large tarpon which slipped in and out of the wreck like silk scarves swirling. By day the water was so blue and clear that one could photograph divers at work below from the deck of Calypso. . . Outside Havana harbor Calypso divers spotted debris from many ages, including large anchors snapped off by fierce currents. . . The team recovered a corked blue-black glass bottle full of liquid no one could muster the courage to taste, as well as several clay urns. . . For the most part, ocean life was so rich and diverse that often underwater cameramen had problems deciding where to point their cameras first. Among the most exciting moments were the sighting of whale sharks feeding on other fish so numerous that they looked like a solid mass. Divers swam near a whale shark feeding by trapping fish in a net of bubbles and straining them from seawater flowing into its huge mouth. . . It was easy to imagine the age of discovery in these seas when fish were so abundant they would be caught by hand, rather than by hook."

description enough. It's a big operation with scores of divers, but groups and people who like groups do well here. Edith Lank (Rochester, NY) has visited three times: "The hotel as well as the diving is nearly perfect; we went with a family, ages 1 to 60, nondivers thru pros, and the hotel was a comfortable base with outstanding food. Excellent snorkeling off the beach and a good resort course for nondivers." George Van (Nashville, TN) said the rooms in the new wing "are extremely small and disappointing; there were no screens on the windows and one morning my daughter woke up with nearly 100 bug bites." (800/367-DIVI). . . . The Bonaire Beach Hotel, another big place, gets reader praise for the high quality and safety-oriented dive operation. It's the only hotel on Bonaire with a casino, so one can find real bargains (\$1500-\$2000, for two, airfare and diving included) because of charter packages from eastern cities. (800/526-2370; 201/566-8866)

COSTA RICA: A couple of readers have tried the Phantom Isle Lodge; says William Voelker (Paradise, CA): "An isolated lodge reached by a three-hour boat ride; there are no roads or phones; dense tropical jungle. Sloths, parrots and monkeys surround the lodge; best diving at Cano Island, a long, eight-mile boat ride. The whole trip is a real experience and not for everyone." (713/489-9156). . . . Says USAir pilot Jim Black: "For exciting diving nowhere I've been compares to Cocos Island. Big sharks and a bevy of large pelagics -- mantas, whale sharks, eagle rays -- were evident on every single dive. So were schooling hammerheads. There were some oddities, including zebra morays and a couple of yellow-bellied sea snakes. Large schools of jacks and tuna were always around. There is some soft coral, plenty of black coral, a large 80-foot wide, 120-foot tunnel. A two-week trip on an 82-foot gaff rigged top sail schooner is \$1500+ airfare." The only drawback is that it's a two-day open sea trip back and forth to the island. Reader Black has taken the trip each spring in the last three years. For information write Victoria AF Carlstad, PO Box 13C, Puntarenas, Costa Rica. (For more information see Undercurrent November/December 1983)

Continued next month. . . .

C.C., travel editor

Divers Alert Network

-- A Call For Help

If you're one to believe that diving accidents are a rarity, take note that in 1985, the staff and physicians at the Divers Alert Network at Duke University Medical Center answered nearly 500 emergency phone calls from divers who believed they had an air embolism or decompression sickness problem.

We learned firsthand just how busy DAN is when we called to complete this story the Tuesday after Labor Day. It wasn't even lunchtime and DAN Assistant Director Chris Wachholz had just gotten off the phone after helping his third accident victim of the day, a fellow who had made one dive in the Bahamas to 90 feet for 25 minutes and four hours later took off in a private plane. He developed a severe pain in his hand, and Wachholz got him directed to Duke for a visit to their chamber.

Although more than 100 sport divers in the U.S., Canada, and the Caribbean succumb annually to injuries suffered while diving, most of the 600 or so nonfatal accidents are no more serious than this. Still, no one can say just how many lives DAN has saved or how many permanent injuries its hotline has prevented. But we can presume that scores upon scores of sport divers owe their mobility and even a few extra years of their lives to the rapid response from a DAN physician.

How DAN Works

Any diver who ever goes near the water should know that DAN is an emergency service that, through an 800 number, provides 24-hour access to

physicians who specialize in diving problems. For a diver in trouble, a call to DAN (they'll take collect calls in emergencies) can provide direction to the nearest chamber, a hook up with an air taxi, instructions to chamber operators on what sort of recompression is required, and a host of other assistance during a diving emergency. DAN personnel even work with a diver's insurance company to get money wired for emergency expenses.

DAN personnel also provide information to non-emergency callers -- who numbered nearly 3000 in 1985. In fact, DAN is as much a research and education organization as it is an emergency hotline. As DAN Director Dr. Peter B. Bennett told *Undercurrent*: "Although providing emergency treatment is important, I see our more important role as teaching diving medicine and diving safety; our research helps to reduce accidents and adds to the successful growth of the sport of scuba diving."

DAN is not operated on the cheap. Its annual budget is roughly a quarter of a million dollars. Assistant Director Wachholz and Maria Gilbert, the secretary, are the only full-time employees. DAN relies on four part-time employees to handle computer needs, diving research and accounting. DAN's chairman, Dr. Bennett, is paid a partial salary. The seven physicians who are on call to ensure that anyone, anywhere in the world, can get help any time, day or night, volunteer their services. Volunteer regional coordinators take referrals to handle the problems of accident victims locally. And many other physicians and lay people contribute services.

Living Month to Month

While the cost of maintaining this sophisticated operation is high, DAN's income to support the operation is never certain. Whereas the program was once supported by federal grants, that support has dwindled to \$25,000 per year from NOAA.

To fill that hole, DAN has had to develop an aggressive fundraising program to ensure its support. A few years back, it began to solicit individual membership contributions on the assumption that individuals who may eventually find it necessary to use the service would support it; 13,000 individuals have contributed during the past three years and it's the renewed support and new memberships which now provide nearly 75% of DAN's annual income.

Many shops, dive clubs, tour leaders, and dive resorts have helped by running membership ads for DAN, staging fundraising events or sponsoring trips from which the proceeds go to DAN. This year DAN has run research trips aboard the *Cayman Aggressor* and the *Misty Law*; divers participate in research, so a portion of their expenses is tax deductible. The proceeds go to DAN.

Go For It, DAN

Oddly enough, the big blank on the DAN income ledger is on the line marked "industry contribution." Where one might expect to see sizeable contributions from the big manufacturers, there is little. Casio watches has contributed \$500 and a like sum has come from Bob Straight, a fellow who makes beautiful undersea jewelry and recognizes an obligation to the diving community when he sees it. Back in 1982, U.S. Divers and NASDS each contributed \$1000. This year, PADI contributed \$5000 -- when there is a legitimate need for money from a nonprofit service to the diving community, PADI is always generous. The Diving Equipment Manufacturer's Association has not sent cash, but they've provided a lot of free assistance, as have all the training agencies. So, where's the cash? So, what's up?

Wachholz told *Undercurrent* that he "sent letters to all the major companies a couple of years ago and never heard from any of them. I suppose that we should be calling on them regularly, but we have been concentrating on the divers and that has taken most of our efforts."

It is an axiom in fundraising that unless you ask for money, you won't get it. Indeed, Wachholz should be pressing all the companies for major contributions. He admits that he doesn't like asking for money. But is that the problem? We at *Undercurrent* want DAN to work and work well. Do the companies just need to be asked for contributions? Or are they tightwads?

We called a half a dozen company executives and it seems that they do indeed need to be solicited. To a person they don't recall being solicited by DAN and a couple said that since they haven't been asked, they're unaware that DAN needs money. At the same time, they are quite aware of the existence of DAN and we gathered from our conversations that if DAN systematically approached manufacturers and distributors, contributions would be forthcoming.

The people at DAN have plenty to do just trying to carry out the programs of DAN and help divers. But if they could develop the same aggressive approach to the manufacturers and distributors as they have to attract individuals, they might be able to build the buffer they need.

Any skilled volunteer fundraisers out there to lend a hand?

DAN's finances and future programs

DAN has no financial buffer. It's largely a month-to-month operation. Wachholz said, "If we had \$20,000 of noncommitted capital we would be better off because some months we are in the red and some months we're in the black. We don't have a reserve to carry us through three or four months." Although there is no immediate threat to DAN's continuation, Wachholz says, "If we were in the red for three months Duke could shut us down."

If a financial base were built, the staff could devote more time to serving the diving community and less time to fundraising. Living month to month does create problems. For example, only short runs of manuals and other material can be printed because there is insufficient cash to create inventories. So the diver has to wait longer than he should for information, while DAN pays higher per unit printing prices.

If more money were available, DAN would put a greater emphasis on educating emergency personnel about diving accidents, training chamber people -- including those from the Caribbean and elsewhere -- and providing more information on diving medicine to physicians. Wachholz says, "If we did our job as we would like to, we'd be out of business in a very few years." DAN would have trained plenty of people about what is needed to manage diving accidents and virtually all problems could be handled locally.

One program DAN is currently negotiating is accident insurance for divers. If an injured diver needs an air ambulance for evacuation to a chamber, he'll have to provide evidence of insurance or else pay cash on the spot to get a plane. Since most personal injury insurance doesn't cover air transportation, a seriously injured diver will lose precious time getting

the money to pay for transportation. Wachholz is close to cutting a deal with a major insurance company which will cover up to \$10,000 of insurance for air taxi and recompression chamber expenses. He thinks he'll be able to deliver a policy for a \$20 annual fee, quite a bargain for the individual diver.

How you can help

DAN is an organization in which every active diver ought to hold a membership. After all, a \$15 contribution for a service such as DAN's is quite a bargain -- especially should it ever become a matter of life or death.

You can do your share to help. With your \$15 membership, you'll receive an informative bimonthly newsletter along with introductory membership material. Send your contribution to:

Divers Alert Network
Box 3823
Duke University Medical Center
Durham, North Carolina 27710

DAN's good health is critical to your good health and you can't wait for the other guy to support it. Send your contribution today.

For Diving Emergencies
call 919/684-8111 and ask for a
DAN Doctor
For Information Only
call 919/684-2948, 9-5, EST,
Monday-Friday

The Next Generation Of Technology

-- *Is It Only Fantasy?*

The intrepid diver stood by the ladder, ready for his first descent into twenty-five feet of warm, clear Bahamian water. He presented a grandiose display of equipment from the top of his Rigor Mortis Diver's wraparound mask with its auto-purge valve, antihistamine injection tubes, defogant spray dispenser and mucus discharge diverter, to the tips of his Super-Blastoff fins with their quadruple venturi action flapper vents, servo-assisted leg thrusters and emergency power jets (batteries not included). Between these two extremities of mask and fins dangled what appeared to be the entire stock of plumbing and hardware items at Sears.

A macho sight like this may soon become an endangered species like the snorkel or a student's need to swim adequately (judging from today's truly horrific trend towards speedy scuba instruction), and even the instructor himself might become redundant if a new and revolutionary piece of equipment hits the market.

Biodegradable Divers, Inc. is working on an underwater computer which gives pre-programmed instructions and information to the diver. It is their Submersible Computer for the Retrieval Of Tabulated Underwater Memoranda, or SCROTUM. It was invented by the company's electronics genius,

Dr. Fred "Whizzbang" Bloggs, a former computer hack who became interested in diving many years ago when he fell into an open latrine while at summer camp.

Except for the basics of tank, regulator, weightbelt, BC, mask, fins and (hopefully) snorkel, every other accessory will be replaced by just one unit, the SCROTUM. Tank pressure, depth, decompression information, bottom and surface interval times, compass course, water temperature, shark approach warning, the entire contents of the Diver's Manual and much more are all available at the touch of a button. The computer can even instruct a non-diver by means of its display screen and a comprehensive system of audible warning signals. There is a separate alarm signal to match every emergency, and these sounds have been scientifically selected and recorded from police whistles, cow bells, alpenhorns, enraged bulls, foghorns, air raid sirens, pop singing stars, fingernails-on-a-blackboard, the two-toned blasts of genuine French police cars and many other strident noises. If its warnings are disobeyed, the computer will emit a final admonition of rich raspberries, after which, if still ignored, it will self-destruct complete with attached diver.

SCROTUM comes with keyboard console and handy 25-inch viewing screen (a 60-inch projection model will be available for the myopic diver) and is priced tentatively at \$15,995.00 plus \$2,500.00 for battery pack or a 10,000 ft. drop cord to the nearest 120 volt outlet.

Recently we were given the privilege of examining and testing an experimental SCROTUM and it is indeed a formidable machine. Its underwater hum (since corrected on future models by the manufacturer) was an irresistible attraction to sharks who mistook it for the death throes of a school of fish. We became instantly surrounded by sharks in a feeding frenzy and had to abandon our SCROTUM which, despite its plaintive warning signals, was torn to pieces before it even had the satisfaction of self-destructing.

The next model, with its hum suitably subdued to a mere gurgle, worked perfectly. "Breathe," it displayed hopefully when switched on, followed

swiftly by advice on propulsion: "Right fin down, left fin up...left fin down, right fin up..." Sundry audible beeps, burps, bells and the opening bars of Beethoven's Fifth (it sounded like the Vienna Philharmonic but it could have been the Chicago Symphony Orchestra) indicated that miscellaneous fish were nearby, the largest possibly of some dignity to warrant a symphonic fanfare. Just for testing purposes, we pressed various keys at random. Dutifully the machine displayed the Laws of Messrs. Boyle, Henry and Dalton followed by an interesting little snippet by Victor Hugo concerning an octopus, and a few of the more horrifying excerpts from "Jaws."

Our apprehension at this information took a sudden turn for the worse when our SCROTUM emitted a banshee wail (recorded from the mad scene in Act Three of *Lucia di Lammermoor*). It was only to warn us that our time was up and that we should surface to avoid a decompression stop. We obeyed instantly and drifted upwards to the soothing strains of Brahms' "Lullaby."

Since our testing of Biodegradable Divers' laboratory model, however, the company has suffered a setback which might delay further production. Instructors, worldwide, have expressed delight at the news because the possibility of being replaced by a SCROTUM is not a pleasant one. It seems that Dr. "Whizzbang" Bloggs is not only a genius but also an eccentric who refuses to commit his inventions to paper in case they are stolen or plagiarized. The final pre-production and modified model he insisted on testing himself.

At 100 feet Dr. Bloggs pressed the Power On key and his SCROTUM displayed: "5 lbs. potatoes, 1 doz. eggs, 1 large cabbage, 1 lb. butter, pickles, jam, kumquat." To say that he was surprised was to put it mildly and his breathing rate increased. "Reduce activity!" ordered the computer and admonished him with a warning bray (recorded from a rutting Mexican donkey). Further prodding on the keyboard produced: "1 gallon milk, 6 rolls toilet paper."

"Godammit!" thought Dr. Bloggs irritably as realization dawned. "My wife has been using my SCROTUM for her shopping list! She's ruined my programming!" His irate respiration drew more

YOUR MOST IMPORTANT PIECE OF EQUIPMENT

You pride yourself on being a safe, serious diver. You'd never consider diving without first going through a thorough check of your equipment. But if you're not currently a subscriber to *Undercurrent*, you may be leaving behind your single most important piece of gear. Join the thousands of other serious divers already receiving the inside information that only *Undercurrent* can offer. Return the order form on the reverse today!

reprimands from the computer. "You are overexerting!" it displayed as it emanated a demoralizing shriek recorded from a plunging WW II German Stuka dive bomber.

Furiously, Dr. Bloggs punched the Memory Recall key and was rewarded with: "Invite mother for weekend. Important: phone John and reschedule date."

If the first bit of information exasperated him, the last entry sent him into a wild fury. This wasn't surprising because his first name was Fred. As his respiration, depth and blood pressure increased, SCROTUM ran through its entire range of alarm noises while its screen blazed brilliantly with warnings that were ignored. "Whizzbang's" mind was far too fully occupied with rage and thoughts of revenge

to bother with his SCROTUM, and its final pre-self-destruct raspberries went unheeded.

While Biodegradable Divers, Inc. mourns the loss of its electronics wizard, the instructors of the world rejoice at their reprieve. However, there is an applicant for the position left by the departed Bloggs. This candidate is also a computer expert and has been working on a project of his own which could easily be made submersible. He calls it Acquired Notes on Underwater Swimming.

His name is John, I believe. . . .

Author Nigel Froome spent 23 years as the resident dive instructor at the Grand Bahama Hotel, getting along quite nicely, thank you, without a single electronic gadget. This is his third bit of whimsy published by Undercurrent.

Choosing A Buddy

-- Who Fit With Whom—And Why

Along with "never hold your breath under water," "never dive alone" is generally considered one of the truths of diving. From the time a diver enters training until he retires from the sport, having someone to dive with and learning how to dive correctly with this someone is a constant process. We are warned of dire consequences if we are remiss in this task with punishment akin to violation of scripture: death and destruction (and if diving in the ocean, one will most likely turn into a pillar of salt).

Although diving alone is fashionable in some quarters (see *Undercurrent*, July 1978), the revised tenets of the buddy system are still viable. We now generally accept that relying exclusively on buddy breathing in an emergency can kill two divers. But buddy teams have other values. A buddy can help solve another's equipment problems, both underwater and on the surface. A buddy can help another deal with cramps or panic, can apply first aid, summon help, and much more.

Training emphasizes the need for a buddy and rightly so. Yet what is hardly discussed or thought is

how to make a correct choice of a buddy and how to operate quickly as a team with this sometimes stranger. The training assumption is largely that divers have a regular buddy or that somehow divemasters have the wisdom to choose who will work best with whom. The "wisdom" is largely a technical solution: "equal experience." However, the necessary dimension from which good cooperation can emerge is largely interpersonal and therefore very complex. Just what is the appropriate mix for a healthy buddy experience? Let's explore these issues in order to surface some rules of relations in making better buddy choices.

"I have seen plenty of buddy teams and wondered: 'How can she possibly dive with him?'"

Choosing the right buddy starts with a large measure of self-awareness and a knowledge of the kind of people with whom you work best. The more you understand your needs, the more you are likely

YES, start sending me my own copy of *Undercurrent* every month.

I enclose: \$32 for a one year subscription

For foreign air mail delivery add \$25.00/year

\$54 for a two year subscription

For foreign surface mail delivery add \$16.00/year

(U.S. funds only)

Or charge my

Visa

Mastercard

American Express account.

Account Number: _____ Expiration Date: _____

Signature: _____

Name: _____

Address: _____

City _____ State _____ Zip _____

Please make check payable and mail to: *Undercurrent*, 2315 Broadway, New York, NY 10024.

to choose someone to fill those needs, and don't be surprised if those needs surprise you. People often choose partners for the strangest reasons (strange, at least, to outsiders) and these seemingly bizarre matchups can work. The posturing macho who brags about his deep dive, the compulsive talker who engages everyone in the boat, the wallflower who hides as far away as possible from everyone -- all can find or be found by appropriate partners. I have seen plenty of buddy teams and wondered: "How can she possibly dive with him?" And yet upon further observation, these teams work very well.

The interpersonal mix is the most important issue. It is extremely complex, complicated by a short time frame prior to a dive, matching strangers, low trust between people, and limited discussion. The variable that seems most critical under such conditions revolves around issues of control. Putting it simply, the person with higher needs for control will want to be in charge. There is usually little time for exploring style issues and working through power differences. Thus, in searching for a partner a diver must primarily determine: what are your needs for control? Would you rather someone else take the lead, will you take it, or are you flexible? The following questionnaire should assist in establishing the position you are most likely to take.

Score 0 for "not true," 1 for "somewhat true," 2 for "very true."

- _____ 1. New dive situations and sites make me anxious.
- _____ 2. I tend to rely on and stay close to my buddy.
- _____ 3. Surfacing with a large safety margin of air is a high priority for me.
- _____ 4. Paying careful attention and following directions are important for safety.
- _____ 5. Although I know I should keep my equipment well maintained, I sometimes dive without recent maintenance.
- _____ 6. Sometimes I find the guides too constricting and wish I explored more on my own.
- _____ 7. Although associating with divers is enjoyable for me, I sometimes wish I had better stories to tell.
- _____ 8. I would prefer to have more confidence in myself and my diving.
- _____ 9. Loud, posturing divers tend to repel me and sometimes I admire their go-for-broke attitude.
- _____ 10. Cooperating with the guides and other divers is an important part of the dive experience.
- _____ 11. I am aware of the dive plan and usually find it a useful guide.
- _____ 12. A safety decompression stop at 10 feet is a useful safety precaution.
- _____ 13. I can lead or follow during the dive as the situation demands.
- _____ 14. The U.S. Navy Tables are too con-

straining and there's often room to push them.

- _____ 15. Swapping dive stories and partying after the dive is an important aspect of diving.
- _____ 16. Striking off on my own at the dive site and avoiding "turkey divers" is exciting.
- _____ 17. I don't socialize much with other divers.
- _____ 18. A large part of dive preparation focuses on my equipment.
- _____ 19. Underwater photography is a major joy of diving.
- _____ 20. I tend to "keep to myself" in a dive situation.

The twenty statements cover five different types of divers. Let's examine each type.

Dependent (Statements 1-4). You're a cautious diver who tends to focus on safety, custom and rules. You probably depend on the guides or a more experienced diver for focus and direction in terms of site selections, plan, decompression stops, etc. You lack self-confidence about your diving ability and are willing to trust others to supplement your deficiencies. You wish to be taken care of and will defer to strong personalities or authority. You may tend to be shy and quiet.

Scoring: A total of 0 for the four statements indicates you are not very dependent; 1-4, somewhat dependent; 5-8, very dependent.

Vacillator (Statements 5-9). You're generally a good diver who appreciates the need for caution and safety. Your equipment is in good condition and you are willing to follow the guide's recommendation. You lack some self-confidence about your capabilities and occasionally have to prove yourself by "losing" your buddy or pushing your air supply or the tables. You secretly admire those who appear to "break the rules" and both wish to be like them and are repelled by them. You tend to be somewhat sociable.

Scoring: A total of 0 for the five statements indicates you don't vacillate; 1-5, vacillate somewhat; 6-10, vacillate strongly.

Together (Statements 10-13). You're an extrovert who enjoys life and specifically diving. You tend to socialize on the dive boat, and find out others' interests and professions. The dive site and plan are of great interest to you and your equipment is taken care of. You are generally calm and willing to listen and cooperate. You can lead or follow. You allow others to "tell their story," use good eye contact and are genuinely concerned. You can take charge or defer. You're probably in a helping profession.

Scoring: A total of 0 for the four statements indicates you tend not to be together; 1-4, somewhat together; 5-8, very together.

Macho (Statements 14-16): The dive world is there for your benefit and a place to conquer. You push the rules of diving and your equipment is in mediocre

*Matrix of Interpersonal Attraction**

	Dependent	Vacillator	Together	Macho	Loner
Dependent	- Lack of direction	x Will lead if confident	+ Will Reassure and lead	x If stays close and likes person.	- Too much attention required
Vacillator	x If vacillator takes lead and is confident	x Possible lack of leadership	+ Will cooperate	- Power struggle	- Too much attention required
Together	+ Will follow	+ Will follow and usually cooperate	+ Will cooperate	x OK if not overly posturing	x If together willing to follow, be alone
Macho	+ Will follow at some risk	- Power struggle	x May become angry	x May develop power struggle	- Too demanding
Loner	- Needs attention	- Will be alone	x Will follow and often be alone	x Alone, and may need attention	+ Good personal space

* Possible Matches

- No
- x Possible
- + Match

HOW TO READ THE MATRIX:

Using the questionnaire score, find your type at the top of the matrix. Read down the column until an x (possible match) or + (match) appears. Then read to the left to find your buddy type. Narrative in box pertains to your type, juxtaposed against your buddy type.

condition. You tend to be extroverted, loud, a poor listener and somewhat intimidating. Guides leave you alone. You tend to be male and, if so, women may be either repelled or find you fascinating. You tend to give divers and diving a bad name.

Scoring: A total of 0 for the three statements indicates you tend not to be "macho"; 1-3, somewhat "macho"; 4-6, very "macho."

Loner (Statements 17-20). You're an introvert who is more interested in things than people. You find diving fascinating because of its technical virtuosity and its peacefulness and solitude. You generally like photography and could spend most of the dive in one spot photographing one fish. Your conversation is limited and you are usually involved in dive and equipment preparation.

Scoring: A total of 0 for the four statements indicates you tend not to be a loner; 1-3, somewhat a loner; 4-6, very much a loner.

Given your profile on the intrapersonal categories, what would such profiles be looking for interpersonally? The following matrix of "Interpersonal Attraction" (Fig. 1) outlines complementary behaviors. Take your highest score from the questionnaire (based on the idea that the strongest need would

emerge under stress), find yourself on the top of the matrix and read down to find possible matches.

Please note that one type may find a match but the other does not reciprocate. For example, a Macho possibly might dive with a Loner because Machos are alone a significant amount of time. The Loner, however, would probably reject the Macho because of the Loner's need for separateness that is disturbed by the Macho's attention-getting behavior.

How to Spot Your Match

You know yourself and whom you will match with. Now begins the more difficult and challenging part: finding your buddy. Given that a boat ride to site may be only 10 minutes and you are largely strangers, you will have to do some quick analysis without much conversation and rely a great deal on visual cues.

As you scan the other divers, note the shape of their equipment. Is it new (Dependent, Together, Loner)? Well worn (T, V, L)? Neglected (M)? Photographic (L)?

What is their posture or where are they sitting? Upright, facing out (V, T). Active, roaming (M). Slight-

ly slumped shoulders howed (D). Busy with equipment (L).

Who returns your eye-scanning? First (T, M), second (V), last (D, L).

As equipment is being prepared and donned, how efficiently and quickly is this done? Slowly with mistakes (D); at a reasonable pace (V, T); rushed and seemingly with little care (M); slowly with great care (L).

This should quickly narrow the categories and with the remaining time ask the following questions. It's useful to listen carefully to the responses, especially noting feelings as well as content. Everyone is pre-dive anxious to some degree. (See "Pre-dive Jitters," *Undercurrent*, August '84). In such a situation less masking of real behavior is likely to emerge and better match our profiles.

1. Are you looking forward to the dive?
 - M Unqualified "yes" with much elaboration. Not much interest in your view.
 - T A "yes" with a request for your view.
 - V "Yes" with some excitement and some concern.
 - D Limited response, may need to be drawn out. Concern about experience, site is expressed.
 - L Limited response with some comments about other good dives. May mention intent to take pictures.
2. Do you intend to stick with the guides?
 - M Unqualified no; may claim to know site or that most sites are the same.
 - T Will cooperate; however, response is situational depending on dive operation, location; will ask your view.
 - V Partially committed yes; might also discuss going off on own if situation presents itself.
 - D Yes; will also dive with group or someone who will lead.
 - L No, will discuss the need for peace and quiet, especially if a photographer.

3. What is your experience?

- M Will exaggerate, probably not question you.
- T Will give realistic appraisal.
- V Reasonably self-assured, some hesitation.
- D Hesitant, may downplay accomplishments.
- L Will be somewhat withdrawn; may turn attention to excellent photographic sites.

You should now have all the information you need to choose an appropriate partner: self-assessment as to your type, a complementary type based on your needs plus an on-site method for narrowing buddy choices. Used correctly, this method should both reassure and create more pre-dive time for further "getting to know" your buddy. With your more correct choice, inherent conflicts should diminish and better diving will result.

A caveat: I've attempted to make the selection of a dive buddy somewhat systematic and such a system will prove useful to many of you. Some people, however, may not wish to take the time to follow a systematic approach, claiming that they "do it anyway" (not understanding quite how) or "it usually works out fine." There may be much conventional wisdom in the above. Such divers are largely trusting their "sixth sense" or intuition for buddy choices. They scan the group and "know" who is right for them. If such senses are trusted and allowed to operate without judgmental filters, they will probably lead to the correct complementary buddy. Opposites do attract and nature usually makes initial healthy matches. Leave your interpretations on the dock.

If you're like most of us, however, you probably want more hard evidence. This system should reduce some of the guesswork.

The author, Michael H. Smith, Ph.D., is a partner in the organizational development and training firm of Smith Merritt. He is on the faculty of the Business and Public Administration department of California State University at Hayward. He has been a certified diver for ten years.

Electronic Dive Computers: Part II

-- A Firsthand Report

The EDGE and the DECO-BRAIN II are compact submersible dive computers which provide credit for the shallow portions of the dive, thereby giving the diver substantially increased bottom time when compared to the U.S. Navy Dive Tables. They are also precision depth gauges, dive-timers, and surface interval timers and take care of repetitive dives as well as single dives.

One of our writers has taken both devices to the deep to get firsthand impressions of their operations.

This is his report.

The EDGE:

The EDGE is about the size of two cigarette packs laid end-to-end, and weighs 1.5 lbs. It's powered by one 9v alkaline battery. Its dot matrix display is divided into a graphical and a digital section. The graph gives the following information:

*The *present depth* displayed by a depth bar to

132 fsw and the *maximum depth* during a dive, to 160 fsw. Accuracy is claimed to be ± 1 ft.

*A graphical representation of the *nitrogen levels in 12 tissue groups* (ranging from 5 to 480 minutes) shown by the tissue surface limit line. As long as each of the 12 bars remains above the line, the dive requires no decompression. This display allows one to visualize how much nitrogen his body has absorbed and to control further absorption.

*A graphical representation of the *minimum safe ascent depth*. If the dive becomes a decompression dive, the graph will show the shallowest depth you can safely ascend to.

The digital section, which has a SURFACE and DIVE mode, displays:

*When the dive is underway, *present depth* is shown. At the surface, the *maximum depth* is displayed.

*The *duration of the dive* is shown in minutes and seconds and freezes in reverse video upon surfacing. If you descend again within 10 minutes, the timer will continue to add time to the previous dive. The timer is activated at 6.6 fsw and deactivated at 3.3 fsw. It runs up to 99 minutes, 59 seconds, with a claimed accuracy of ± 13 seconds per day.

*At the surface, the dive time will alternate with the *surface interval* which will be displayed in normal video. The surface interval timer has a range of 99 hours, 59 minutes, with ± 13 seconds per day accuracy.

*The *minimum depth you may safely ascend to*, which always reads zero for no-decompression dives. If you have made a decompression dive and ascend above the minimum depth, a warning will flash telling you to DESCEND NOW.

**Remaining no-decompression time* at your present depth.

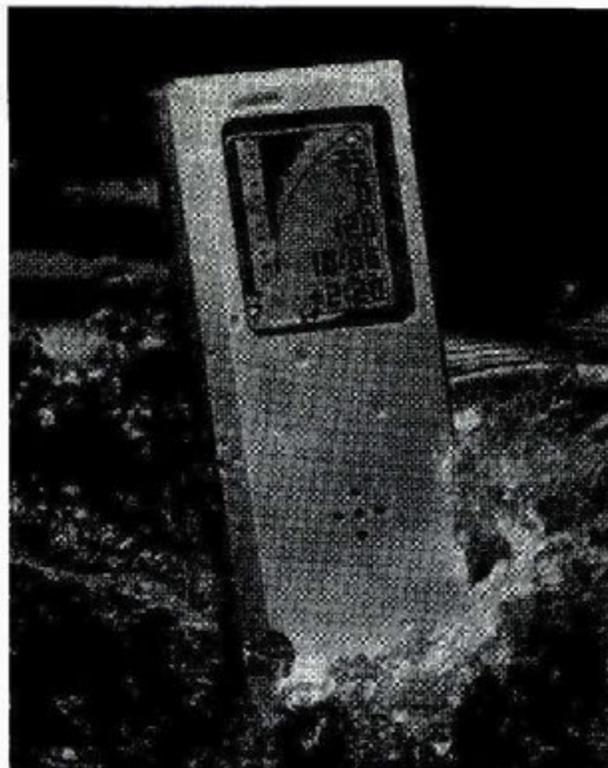
**Decompression time required* at the present depth in order for you to safely ascend to the surface.

*A scrolling indication in 10 fsw increments to 150 fsw of the *no-decompression time for a repetitive dive*, changing, of course, with the duration of the surface interval.

*The temperature in Celsius, accurate to $\pm 2^\circ\text{C}$ with a range of -15°C to 50°C .

*A *low battery* display warning that the unit will operate for approximately 4 more hours.

Twenty feet per minute is the recommended ascent rate with the EDGE and 40 fpm is the maximum. The digital depth indication changes in one-foot increments if the ascent rate is 20 fpm and in two-foot increments at 40 fpm.



Using the EDGE:

The EDGE is very easy to use and provides enormous advantages over self-calculating by providing virtually all the information a diver needs on one simple display. It allows the diver to monitor and control nitrogen absorption, and gives instant and clear displays of decompression time and depth. It simplifies repetitive dive calculations and avoids the errors that many divers make.

It provides more bottom time. For instance, after diving for 54 minutes at 45 to 60 feet and taking a 30-minute surface interval, the EDGE said I could dive to 60 feet for 31 minutes. The U.S. Navy Tables said I had 61 minutes of residual nitrogen, so I *could not* dive to 60 feet without decompressing.

All in all, it's an extraordinary instrument. But even with all these good features, let me suggest improvements.

Alkaline battery life is 48 hours, so one must carry several spare batteries when traveling. An "energizer" battery will give an additional 24 hours of life, and I got a total of 102 with one Duracell.

The two screws that hold the battery cover appear to be large and strong, but they are actually small and weak, being only the size of a pencil lead below the large knurled knob. When replacing the cover, I followed the directions, tightening them about 1 to $1\frac{1}{4}$ turns after feeling resistance, but one broke. I was able to buy another at a local dive shop, but had it happened at a remote site, I could not have used the EDGE. I would advise carrying a few extra screws -- on a week's trip you will replace the bat-

teries 2-3 times. To tighten the screws, use a coin, not a screwdriver. Furthermore, exercise the necessary patience to ensure that the battery compartment O-ring is seated correctly.

Dual battery clips are provided so the battery can be changed without losing the repetitive dive information. One of the clips failed, preventing me from saving my repetitive dive information when changing batteries. There have been reports of the battery compartment leaking; one must be exceptionally careful when seating the O-ring.

Although the weight of the EDGE is not noticeable underwater, it is a bit cumbersome. I found it awkward strapped to my forearm. The velcro straps also snagged my lycra and nylon "skins." It needs rubber straps. An optional "holster" enables one to carry the EDGE on the high pressure hose or on a line attached to your BC, but I found it convenient to strap the EDGE to the back of my console without the holster. In fact, my holster split after several dives.

The magnetic ON-OFF flip switch of the EDGE will affect a compass within 1.5 feet of the EDGE.

The graduations of the graphical depth display are in meters and the ambient temperature in degrees Celsius, neither very familiar to most Americans.

Although ascent rate can easily be controlled by observing the depth display, it would be far better to have a better indicator if the rate is exceeded. There is no built-in illumination of the face.

A template is provided to place on the face of the EDGE to get a graphical reading of when it's safe to fly after a dive. It's helpful, but not as helpful as a time readout.

Evaluation Of The DECO-BRAIN II

The DECO-BRAIN II simulates the nitrogen saturation and desaturation for 16 different tissues. It provides the following information in digital form on 5 displays and 3 lights:

- Dive time
- Current and maximum depth
- Ascent time and ascent rate warning
- Scrolling no-decompression limits
- Decompression depth
- Decompression time
- Decompression stop warning
- Out-of-range warning
- Low battery warning
- Total desaturation time
- Logbook values
- Time till flight

Depth is displayed in 2 foot increments, with a claimed accuracy of ± 1.6 feet.

Ten minutes after surfacing, the DB II will switch into the surface mode. If another dive is begun within

10 minutes of surfacing, the DB II will consider that a continuation of the previous dive. In the surface mode, a scrolling no-decompression table is displayed which changes as the surface interval increases. In the surface mode cycle, other information -- desaturation time, time till flight, log book values, maximum depth and time of dive -- is displayed in two windows for brief periods and repeated every thirty seconds.

The DB II monitors its own functioning. If a malfunction is detected, an "E" and the corresponding error number will appear. The device then needs repair.

In my several test dives with the DB II, I found that I liked the clear readout. In fact, it has a couple of features that are superior to the EDGE.

No extra batteries need be carried because the nicads are rechargeable for 80-100 hours. A low battery warning is triggered when battery life is down to 4-8 hours. The unit can be recharged while still in operation, thus retaining repetitive dive data. Charging time is 4 to 5 hours.

Ascent rate can be controlled. If one exceeds an ascent rate of 33 feet per minute a red light flashes every two seconds; if the ascent rate exceeds 66 feet/minute, the light remains on.

Monitoring the time before a flight is a plus.

Although the DB II had a lot going for it, I found some features that I didn't care for.

I found it much too bulky and inconvenient to wear on my arm, but that's the recommended way to carry it. I couldn't find another way to carry it.

The no-decompression scroll readouts of 68, 78, 88 and 98 feet are not familiar to American divers and don't correspond with U.S. Navy tables. Ninety-eight feet was the maximum depth, too shallow for most sport divers.

The out-of-range readout appeared to be useless for the sport diver. The out-of-range limits are depths greater than 350 feet, longer dive times than 9999 minutes, and decompression stops greater than 90 feet. In my opinion, this is a waste of valuable real estate.

The time-shared surface mode cycle was confusing.

Unlike the EDGE, water temperature is not displayed, but similar to the EDGE there is no built-in illumination.

The operating instructions are poorly written and difficult to understand. The manual for the EDGE is far clearer.

I had a couple of problems with my evaluation unit. The rate of ascent LED did not function as intended. It only illuminated with a solid red light and I assume I must have reached an ascent rate of 66 feet per minute while slowly increasing my ascent rate from zero and watching the LED.

On two occasions the unit was slow to go into the surface mode, once requiring more than an hour.

Diving And Forgetfulness

Does diving impair the mind and memory? In our August 1984 issue, we ran an article by Dr. Carl Edmonds, the president of the South Pacific Underwater Medicine Society, in which he found intellectual impairment in 12 out of 25 divers he studied. These divers dived as many as 100 days a year, and spent up to four hours at depths of sixty feet, with appropriate surface intervals between dives to remain within the no decompression limits. Edmonds called the results "horrifying," noting that nearly all the other divers studied exhibited strong evidence of impairment.

Since that article, we have come across additional information worth noting.

According to *New Zealand Dive Magazine*, new research shows that commercial divers who have been braving the deep for more than eight years have very poor short-term memories.

Psychologist Peter Morris of the Diver Performance Unit at England's Lancaster University says, "We found this almost by accident and we were quite horrified." He showed divers eight clock faces with the hands in different positions. They were told to study them for one minute and after a 30 second rest, were asked to draw on paper where the hands had been.

Divers with less than four years experience got eight or nine right out of sixteen, but divers with eight or more years experience got only four or five correct.

Dr. Morris says that "absentmindedness underwater could cost lives." But he is more concerned that brain damage could be the result of repeated compression and decompression.

Divers in the initial research ranged in age from 24 to 39, eliminating causes of memory lapse due to normal aging. Morris will continue his studies, selecting and testing subjects over a ten-year period.

So far divers studied have logged thousands of dives over many years. Some instructors and guides could certainly find themselves with similar experience, but does the study have any relevance for the average sport diver? We suspected not, un-

til we came across this letter to the editor in a recent issue of the British magazine "Diver."

"I started diving in my first year at Leeds University and completed nearly 100 open water dives in two years. After a week's diving holiday last Easter, I found it very hard to concentrate on work or, indeed, to remember things on a short-term basis.

"You may say work was hard because I spent too much time diving, but it was my overall concentration and memory which were weak. A good example of this is that I have been known to repeat a question up to five times before I could remember the answer. This year I did very little diving and studied for my finals. I found work easier to concentrate on, and many of my friends noticed that my short-term memory had improved.

"One cause suggested was immersion in cold water, which may affect the body, or perhaps just the effects of pressure."

In the same issue Dr. John Betts offered this reply.

"It has been alleged that commercial diving over a period of years leads to poor memory and diminished mental ability. However, this occurs over years and not from a week's diving holiday. Since the effect in professional divers is said to be due to multiple micro-bubbles getting to the brain during decompression, it is just possible that Mr. Wood may have a small 'hole in the heart' which allows bubbles normally filtered off by the lungs to get across to his systemic circulation and thereby to the brain.

"His suggestion that immersion in cold water could cause this is only correct if the diver becomes hypothermic and any such effect would vanish once normal body temperature had been restored."

If you're a sport diver and can't remember what this story is about, write and let us know. We're curious whether active sport divers can indeed be losing their minds.

Which Unit do you Purchase?

After carefully evaluating both units, the EDGE came out my personal winner. Although the DB II performs a couple additional functions I like -- and I prefer the rechargeable batteries -- I still go with the EDGE.

But we found in interviewing users of both devices

that they have nothing but glowing reports for them. These are what a few users told us:

Fred Tears, Dallas, Texas, bought the DB II after he got bent using the Navy tables. "It's increased my bottom time and the number of dives I can make." He especially likes being able to recharge it on a trip. "I turn it on for the first dive and leave it on all week. I attach it to my console, so it's no bother in the

water, but there should be more options as to where it can be worn."

Maine commercial scallop diver Ike Johnson said, "I got bent on the DB II this spring -- just some pain and numbness -- but I still love it. I've had 250 good hours and one bad hour. If you put it near a VHF transmitter and transmit, the display gets wiped out. I don't do that anymore."

EDGE user Marjorie Banks of Atlanta told *Undercurrent* that "I make 5-6 dives a day off live-aboard boats and have two of these units. I don't know what I would do without them." She prefers the batteries of the EDGE to the rechargeable DB II because "rechargeables have a memory and this can cause a unit to lose its charge too early -- and there you are, without a meter." She also notes that "some boats do not have a consistent electrical flow and it can take forever to recharge batteries."

Conclusion:

So far as we can tell, both meters do well what they are supposed to -- provide conservative, multilevel diving tables for the users. The Naval Experimental Diving Unit is testing their accuracy and those findings should be available in the next few months. We've learned from Navy sources that most models show a depth variance of less than ± 2 feet, though some have been off by 4 feet -- very good compared to oil-filled gauges.

While either of these devices should serve a diver well, improvements are on the horizon. EDGE is producing a new meter half the size of the current meter. It will provide the same digital meter as the current device, but will be without the graphic display. Called the Skinnydipper, it will be available next year at a price under \$400.

Dear Undercurrent

Dear *Undercurrent*,

Your item in the DEMA article about the use of SKINS, those lightweight nylon skin suits, prompts me to mention my solution to the problems which they solve. Most of my diving is done in warm water with lots of coral and other sharp edges. I have also suffered from intestinal ailments due to some of the less than hygienic food preparation methods used in this region.

Ever had diarrhea at 110 feet with no previous symptoms? I have. And diving in a group has more than one drawback.

For all of the above reasons, I dive in a nylon jogging suit. They pack like air. They are tough. They are

Dive Accidents Decline

DAN, the Divers Alert Network, reports that the number of cases of bends and air embolisms in the United States seemed to have declined in 1985. A survey of 220 recompression chambers in the United States and Canada revealed 370 cases of decompression sickness and 92 cases of air embolism, as opposed to 442 and 143 respectively in 1984.

DAN estimates that 20,000,000 dives were made, which gives an incidence of bends or embolism at .003% per dive.

Oceanic expects to have its decompression computer out by the end of 1986. Tekna's computer is expected early next year. While providing most of the information provided by the EDGE, these computers will also provide tank pressure by attaching directly to the high pressure hose.

Whether you decided to buy now or wait for the next generation of devices is your choice. But one thing is certain. No decompression computer, no matter how good, can prevent you from getting bent. Bodies differ and no dive table -- or dive computers -- can handle all permutations and combinations. Although cautious use of the meters will reduce the likelihood of getting bent, it is still a hazard of our sport and one should use backup safety precautions as well as know-how to get to a chamber if the need arises.

Nonetheless, the EDGE brings enormous new possibilities to sport diving. As the most significant contribution to diving since the regulator, it will -- and already has -- change our sport forever.

-- Words From Our Readers

loose enough to get off in an emergency. And at K-Mart they are inexpensive. Come in nice colors and can double as workout clothing and a sun screen.

Thomas R. Barnes
American Embassy Mexico
U.S. State Department

Dear *Undercurrent*,

After reading your report on liability insurance in the September issue, I can only hope that your building has a good lightning rod. My store's insurance (from SSI) went from \$900 in 1984-1985 to \$2700 in 1985-1986. In addition, our coverage dropped from \$1,000,000 to \$300,000 in the same period.

This means that the cost per dollar of coverage went up 900%. Until this year my store insurance covered all my store instructors. Now each of my instructors must pay \$375 to be able to teach in my store.

If you would like to find out why it will cost the consumer 15-20% more next year, give me a call and I'll set you straight.

Ted Green
Tidewater Aquatics
Annapolis, MD

Dear *Undercurrent*,

Local dive shops have absorbed increases of 630% in three years for their liability insurance, while instructors have had a 466% increase in three years. I've been told that the smart money is on a 10-20% increase for both next year. Yes, prices will continue to rise. I wouldn't feel so bad paying thousands for insurance that only cost hundreds a short time ago, if I only knew that mail order companies were paying the same price.

Scott Mele
Princeton Aqua Sports
Princeton, NJ

Dear *Undercurrent*,

We instructors have a "claims made" policy which only covers claims actually filed during the policy period. If your policy lapses on June 30 and a claim is made on July 1 ... tough luck.

We're required by the policy to report any incident that could possibly lead to a claim within a short time after the incident occurs. Failure to do so will void the policy. Suppose I have a checkout accident on June 15 and report it to the insurance company within a week. What do you suppose is the likelihood of my insurance being renewed by the company on July 1, while I'm right in the middle of training

students?

A Chicago instructor

Dear *Undercurrent*,

I was disappointed in your article touting an investment in DIVI hotels in your October edition. You have traditionally been totally objective in your review of diving resorts. While you carefully qualified your comments (as do analysts who push stocks and work for the large investment firms), you certainly pushed the potential investment as much as any analyst.

I question whether this kind of stock endorsement has a place in a diving newsletter. Furthermore, is your staff qualified to review stock performances and prospects?

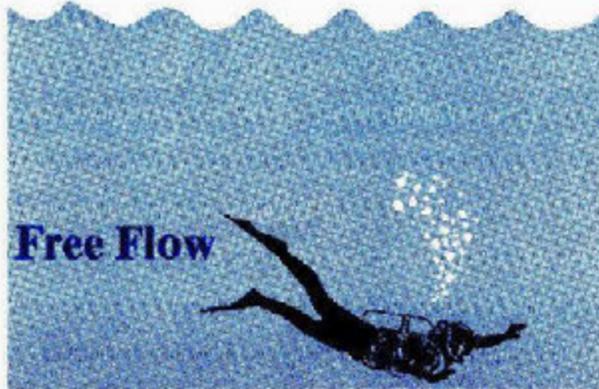
George P. Van
Nashville, Tenn.

Dear George,

We've been writing about investments in the diving industry since 1978. We have written over the years about several stocks related to diving, including Aquanautics (the developer of the underwater lung -- which is doing very poorly as an investment) and Johnson and Johnson, which owns Scubapro. As to whether we're qualified, only the eventual stock price is the judge.

But we do have a qualified writer, a retired vice president of Sutro and Company, a major San Francisco brokerage, Albert Haas, Jr., who has written for the *New York Times* and other publications. *Undercurrent* or its staff receives no benefits from the DIVI corporation and the next time we review one of their operations we'll report on it with the same objectivity as we report on any other operation. In fact, your comments on your recent stay at DIVI's Flamingo Hotel in Bonaire are included in this issue's travel update.

Ben Davison



Stings? Here are a couple more remedies. Seawater neutralizes jellyfish stings, so keep the area doused in saltwater. Rubbing alcohol may also help, but

freshwater only aggravates the problem. Stubborn stingers may be scraped off with a stiff object such as a credit card, reports Dr. Arthur I. Jackowitz in *American Health Magazine*. Mosquito bite pain and itch can be relieved by briefly applying water hot enough to be slightly uncomfortable (up to 130° F), but not hot enough to burn. Relief can linger up to three hours.

Ever think that Dacor was an odd name for a diving company? It's short for Davison Corporation and it's been around since 1964 when founder and president Sam Davison got the idea he could improve some of his own diving gear and ended up designing a regulator. He now has 100 employees and 1600 accounts. And he's not even kin to our own Ben Davison.