

DIVING OFFICER UNDER CONFUSION

Chris Knaggs – USS Virginia Base - SubVets

Being a diving officer on a U.S. missile submarine in the 1970's was a unique experience. A combination of engineering, mythology and dumb luck was needed to keep the ship in a proper trim. Learning how to be a diving officer was through a combination of book learning, instinct and vague on-the-job training. The fact was that some could do it and others could not. The problem was that for anyone to grow in their submarine qualifications and actually drive the ship (and eventually succeed to command years later) you had to first become a diving officer – at least for a little while.

Most officers hated “the dive” as it was termed. As a diving officer you were caught between an officer-of-the-deck (OOD) who spent most of a watch screaming at you while also managing two of the most junior and incorrigible enlisted men onboard. These men (the planesmen) were often barely 18 years old usually representing the newest sailors onboard. The planesmen were the ones moving the rudder to steer where the ODD wanted the ship heading and using the diving planes to keep the diving officer on ordered depth. When not fighting the inattention, fear, and nervousness of these planesmen, the diving officer was also battling waves, temperature, salinity and ocean pressure to stay on ordered depth. In addition, “The Dive” had to keep the ship in balance and on an even keel by moving water and oil throughout the ship as necessary. It was a constant challenge, but it could also be boring beyond sanity.

The diving officer sat on a poorly backed chair with the planesmen on either side. Watches were six hours long. For six long hours the three of you (the dive team) would stare at a depth, rudder and planes indicator. There was also “the bubble” which indicated the angle of the ship. Other than that, there was nothing to occupy the time except drink coffee, smoke cigarettes and bitch about how you ended up being stuck on this boat. If the ship was well trimmed and the speed relatively slow, there was little to do. The planesmen would keep the ship on ordered depth with a negligible effort using small amounts of up or down on the fairwater or stern planes. If the weather was rough, or the ship was traveling at high speed, then there was considerably more caution and effort needed to maintain depth. In rough weather the troughs of the waves would try to suck the ship up to surface. This was particularly true on this huge missile submarine with a length of 425 feet. The missile deck just naturally wanted to pull you up in shallow depths. You could counteract this tendency by running the sub with a slight down bubble forcing the ship to “fly” down to counteract the surface pressure.

At high speed the problem was different. Any slight change of the planes could cause a rapid change in depth in either direction. This would sometimes result in the dreaded “yo-yo” where the submarine would pass back and forth through ordered depth. This was usually caused because the planesmen would overcompensate in the movement of the planes. They were used to running at slow speeds where a lot of plane movement was needed to change depth. At high speed even a slight up or down movement could get the boat rocketing in one direction or another. It didn't help that the planesmen were constantly being screamed at from several

sources to get on ordered depth. For some reason everyone thought yelling and cursing helped, but it really didn't. At fast bells (high speed) it wasn't unusual to be suddenly ten, twenty or thirty feet below ordered depth. This would generate a slight panic (because they knew someone was going to scream at them) causing the planesmen to pull up too much. Just as suddenly the submarine was 30 feet above ordered depth. An opposite reaction would then ensue, lots more yelling and cursing, with the boat ending up well below ordered depth again. As a practical matter, being off ordered depth wasn't a huge deal unless you were doing something special or very shallow, but some officers treated it as if the nuclear reactor had just melted down. This constant barrage of anger never did much to help the ship maintain depth, but it did ensure that the planesmen would never, ever, ever re-enlist.

There was a fair amount of training taken to get everyone ready to manage the ship from a diving officer perspective. The issue was that what you read in books or practiced in simulators on land never quite worked out the same at sea. Ashore in submarine school you practiced being a diving officer in elaborate simulators. These simulators actually pitched up and down, left and right, and with all gauges reacting to the actions the trainees were taking. In the on-land simulators depth control was an orderly evolution. If water needed to be pumped into the ship to make it heavier a simple command was given like "flood depth control 2000 pounds". If the ship was too heavy fore or aft, then maybe "pump 1000 pounds from forward trim tank to after trim tank" was given. It took some getting used to, but after a little effort life seemed good and there was a logic to making this simulated submarine control station work. No one ever really explained very well how you knew the ship was light or heavy. You never understood why 1000 pounds versus five thousand pounds was the answer. You were just supposed to know through some sort of psychic connection with the submarine. If you had to go to periscope depth it was necessary to weigh the ship down to prevent the surface effect from sucking you up. Being sucked up to the surface, or "broaching", was a big no-no for a sub because it made you visible to anyone that might be on the surface. Again, though, how much water? Even in the computer simulators you just went up randomly flooding and pumping hoping for the best. The worse the sea state the more water that had to come in, but you didn't want to get too heavy or the ship would stall going up. Then you would sink like a rock and have to pump or blow water like a madman to keep from sinking to the bottom. In the simulator, nothing bad could happen since you were on dry land so even if there were a few mistakes it didn't matter. You learned that everything you did as a diving officer could create havoc, but the rules were all . . . well, squishy. As long as you said the right things in the right format most of the instructors were happy.

No one takes over diving officer on a submarine without qualifying officially as a diving officer. This qualifying entailed becoming intimately familiar with related ship systems. You had to know the tanks and lines where the water would move, the various pumps that could move water, how the valves worked and manual overrides if something didn't work. Then the trainee stood several watches under instruction until a current, certified diving officer, attested that you knew enough about how to stand the watch on your own. At this point the candidate

would take a comprehensive test calculating the moments and trim of the ship with an added emphasis on emergency procedures. Finally, the ship's captain would quiz you and sign you off as an official "diving officer". Now you could stand the watch all by your lonesome.

There was a lot of pressure to get qualified in a watch station. Once qualified, someone else could go off the watch or all the other diving officers could go to a less frequent watch schedule - meaning the group as a whole could actually get some sleep while at sea. Until you were qualified on the dive you were just a "lower than whale-shit, non-qual puke" and from everyone's view you were just a "heat load on the air-conditioning".

My first watches as a diving officer under instruction were uneventful largely because I didn't really stand the watch – at least not at the diving station. The first watches involved going through the ship and finding all the parts of the diving and trim system. The goal was to learn all the capacities and limitations of the system. Using piping diagrams, the trainee traced where everything was located, what a particular valve or pipe looked like, tank capacities and electrical connectivity. You were required to memorize every aspect of the trim and drain system and how they inter-connected. Until you did this you weren't even allowed to sit near the diving officer to learn the actual watch-station. This information had to be regurgitated to qualified watchstanders who continued to express that you were "the dumbest individual on the planet" and that an "untrained monkey" could learn the system better. Do something wrong, say something wrong or not say it fast enough and you had to start all over again retracing previous work. Some inquisitors had obtained, over time, special irrelevant knowledge called "oolies". These were questions virtually no one could ever know, but they did. "What was the valve made of, what year was the piping installed, who was the manufacturer of the original piping that is no longer there, but remains so in spirit?" On and on the torture would continue until you were so sick of the trim and drain system you looked forward to actually being at the dive station and standing the watch.

Finally, the diving officer qualification card was signed off except for the practical factors that could only be done at the diving station during actual at-sea operations. On this watch the trained diving officer that was officially sitting in the seat was an experienced chief petty officer named Duran. Chief Duran placed me in the seat and stood behind me to watch me carefully during evolutions. All was fine initially – the ship seemed trimmed appropriately – at least from my understanding of what that meant. The planesmen weren't working too hard and mostly just discussing who had sex first with one of their cousins. After thirty minutes, it appeared the ship needed a slight down angle (or 'bubble' as it was called) to keep depth. Even I know at this juncture we're probably a little light. Duran suggests that I bring some water in the tanks to recover our trim. I say "how much?"

Duran says, "A scosh".

"What's a scosh?" I ask bewildered. In all my training on the simulators and in the books, there was nothing called a 'scosh'.

Chief Duran rubbed his forehead like he was in pain. “You know a scosh, a little bit, just open the intake to depth control really quick and then close it. Everyone knows what a scosh is.” Then Duran turns slightly to his left and tells the Chief-of-the-Watch (or the COW as the watchstation was known), “give me a scosh to depth control”. It was The COW who controlled the actual physical movement of the water on the ship at the orders of the diving officer. The COW pulls down on a small flexible lever for a second and that was it. A minute or so later I noticed that miraculously it seems that the submarine is moving through the water without having to use a down bubble to keep depth. That seemed easy.

A half a cup of coffee later the ship still seems okay with the bubble on average, but the planesmen are chasing depth a little bit. They’d go down below ordered depth a little bit, make a correction, over-correct, and then we’d be above. It was only a few feet either way so no big deal. There was a constant shift between a one or two degree up bubble and one or two degree down bubble. Duran taps me on the shoulder and says, “Hey ensign, your sub is dumbbelled”. I have to ask what that means. The planesmen are looking back at me like I’m on the far side of stupid. Chief Duran points to the forward and after trim tanks indicators. These indicators show how much water is in each tank. He tells me that it is obvious there is too much water in each tank, causing the ship to over-react. “We need to move water out of those two tanks to the middle of the ship to stop the see-sawing”.

I hesitate to ask but do anyhow, “How much water should I move?”

“A squirt from aft and a slug from forward should do the trick.” He then motions to the Chief-of-the-Watch with a ‘make it so’ wave of the hand. The COW then uses the trim pump to move the requisite amount of water around the submarine. Technically I was supposed to order this to make it happen, but I don’t have the slightest idea what that amount of water was. Every bit of training I had was in terms of a weight measures like 500 pounds here and 500 pounds there.

Feeling even more stupid, and knowing I’m going to get another ration of crap from everyone, I have to ask what a squirt and a slug might be. Duran shakes his head in amazement at the COW and relates, “Oh it depends. Generally, I think of a slug as being 3 times greater than a scosh which is two times greater than a squirt. As the ship goes along it’s a feel thing in your butt.”

Being more inclined to deal in specifics I tried to relate this to the training in the simulator where water movement was in pounds. “So, is like a scosh a 100 pounds and a slug 300 pounds?”

“Oh no, it’s all more than that and it depends on the sound velocity profile (also known as the SVP)”, Duran tells me, pointing to a graph on the bulkhead just left of the depth gauges. If we’re deeper than a scosh can change, or if the temperature of the water is warmer, that can make a slug slightly more. Again – it’s a feel thing – you and the boat have to connect.” Duran looked up at myriad of pipes and valves above his head and finished, Oh, and salinity of the

water can make a difference too, but here in the North Atlantic that doesn't change much". We were at 400 feet rocking a tiny bit left to right. Duran raised his eyebrows to the COW saying, "Seems a little bit sporty up there". The COW nodded giving a shrug of the shoulders.

I wasn't interested in sporty. I was just confused and wanting the watch to end. It's clear I haven't the slightest idea what I'm doing. In frustration, I complained a bit, "Well, what I don't understand, among just about everything, is how come we got 'dumbbelled' when everything was good for so long? My temple was beginning to throb when I said this. Duran shrugged and mentioned things like water in the bilge, leaky valves and the fact that shit just happens.

Looking at the clock it showed I still had over three hours of watch to go. With the exception of the one or two degree rolls, the submarine was stable and everyone was bored. Then there was some tension when the officer-of-the-deck (OOD), who controlled all the watchstations including dive, answered the sound powered telephone. Duran cursed, "Damn it that's NAV – this can't be good." The OOD called the Captain and then announced to the entire control room that that he was clearing baffles in preparation for going to periscope depth. The submarine needed a navigation fix so we had to get near the surface to receive a satellite signal. There was a collective groan from just about everyone in control, but I thought, "What the heck – maybe there will be something I understand up there."

The ship proceeded easily up to 120 feet and began a slow turn to check for ships behind us that might be hidden in our propeller noise. As we came around about 90 degrees of the compass the submarine began to roll 10 degrees or so in each direction. "Hmm," Chief Duran said pulling at his little goatee, "Seems like it's going to be a little sporty up there."

"What's that mean", I asked alarmed

"Rough seas – going to be hard to keep her from broaching. We'll need to flood in a heap to get her from surfacing unintentionally as we near the surface." We both watched as the ship moved through the compass points on her turn. Sonar came up and reported that there were no contacts, but the sea state on the top was making it difficult to hear anything. The ship was starting to roll just a bit more as we steadied up at 120 feet.

The officer-of--the-deck stood over the dive station and asked, "What course is best for you to come up on?" I was still pondering what a heap of water meant. Now the diving officer was supposed to know what course to come up on? Rightfully so, Duran didn't even defer to me. Looking at the OOD he said, "Course north by a little northwest. We could also use a little more speed". Consistent with this entire watch I'm completely dumbfounded by this magical stuff, but I'm in the diving officer seat so Duran tells me I'm taking her up. I went to protest my lack of knowledge and suggest it might be better just for me to observe this ascent, but Duran respectfully shushed me. All control room watchstanders were unusually quiet – the tenseness had increased with the rocking of the boat. Duran instructed all of us to put our seat-

belts on. This was something we almost never did, but you didn't want to get tossed to the deck at a critical moment

"Helm come left to course 345, all ahead two-thirds, make turns for six knots", the OOD yelled out as he moved towards the periscope. "Keep this ship under up there or I'll personally kick all your asses", the OOD added, putting his hands on the ring to raise the scope.

Chief Duran gave the OOD a thumbs up and had the planesman repeat the order. He put his hand on my shoulder, "When we get to about 90 feet I want you to start bringing in water like hell. Don't let the planesmen over-react, slap them if they move the planes more than 10 or so degrees up and down. It's going to try and suck us up to the surface and I don't want to get "wings".

The OOD called the Captain, got permission to ascend, and then announced to all of us, "Proceeding to periscope depth, Dive make your depth 62 feet."

It was my job to answer but I was in a stuttering shock. What was supposed to happen here? Duran answered "Coming to 62 feet, dive, aye". Then Duran grabbed me by the shoulder again and said, "You know what to do at 90 feet right?"

I was catatonic – or almost. I whimpered, "a heap, a smidge, a lot, a bunch - I don't know". As the sub progressed past 100 feet the boat really began to rock. Something fell on the deck below. Duran hit me on the back and I squeaked out, "Flood depth control 1000 pounds.

"A thousand pounds – that isn't enough – flood more!"

"Flood 2000 pounds more!"

"God damn it, that's not enough to wet the end of my dick". Duran pushed hard on my shoulders and slapped me on the side of the head. Then he yelled "Chief-of-the-Watch flood depth control until I tell you to stop." You could hear water rushing in the valve located below the ship as the noise of the ocean began to churn from above.

The left planesman yelled "passing 75 feet – we're having trouble holding her!" The OOD turned the handle on the scope to raise it up. I couldn't talk. My mind was completely zoned out as everyone worked hard to keep the ship in check. We seemed to be rocketing to the surface. The rolls were at least 20 degrees to each side and I was having trouble staying in the seat. Dishes and pans falling in the galley. Clipboards, pencils and everything not tied down was flying around control. I heard the first sound of someone heaving.

Duran said authoritatively to the COW, "Okay I feel her catching, secure flooding." The ship was rocking side to side even more violently while pitching up and down about ten degrees or so. Duran continued to reach around me to touch the planesmen controlling their movements with slight pressure to their shoulders. This braille contact appeared to have a settling effect. The planesmen stopped cycling the planes back and forth too aggressively. I sat in the chair

still dumbfounded not sure what to do, but staring at the depth gauges assuming some message would come out of these lifeless objects.

The Officer-of-the-deck raised the scope and began to spin it. He yelled, “No close contacts”, but there was a gurgle in his throat as he hung onto the scope because of the violent pitching. He continued sounding more ill, “Can’t see much, just waves everywhere . . . ah, cloudy . . . oh, God I can’t look through this anymore”. He spun the scope to look forward and repeated three times, “Scope is taking hits – it’s hard to see, I don’t know . . . 30 foot waves – God I’m going to hurl!” He threw up all over the periscope stand. Some of the power puke hit us in the back of the head. Duran whispered in my ear, “Tell the OOD we’re at ordered depth.” I couldn’t even remember what ordered depth was – I remained catatonic and began noticing sailors coming into control wondering what the heck the ship was doing up in this weather. There was a green cast to many faces while some fell down, if not holding onto a pipe or station. When Duran realized I was speechless he reported loudly, “At 62 Feet sir”

“Very well, Dive” the OOD rang out as bravely as he could wiping the puke off his chin. He tried to keep spinning the scope looking in all directions for contacts but was so sick he couldn’t even get his eye to the eye piece. After 20 seconds or so the OOD reported to the entire control room, “No contacts in any direction - I think. Dive, I’d like to slow down a bit to take the strain off the scope – it feels like it is shaking apart. Can you handle it?” He proceeded to throw up again causing one of the planesmen to gag reflexively. More noises of things crashing on the ship including a picture in the hallway.

I was slapped on the side of the ear, “tell him you can, but you’d like a course twenty degrees to starboard.” Still in shock I mumbled something unintelligible causing the miserable OOD, who was pretending to look out the scope but was just hanging on the scope arms, to ask for a repeat. This time I said, “Okay, we can slow down”, but forgot the part about the rudder change. Chief Duran spoke up then and said a slight course to change to Starboard would put the seas more just off our bow. The OOD ordered a course change of 15 degrees and the rocking was reduced, but the entire sub was cork-screwing now changing depth as much as ten feet up and down all the time. The smell of vomit permeated the submarine and enveloped all of the watchstanders like an orange blanket. As the ship’s speed decreased the planes were obviously less responsive. The planesmen we’re fighting to keep the ship somewhere around 62 feet. Duran kept leaning around me putting subtle pressure on their shoulders. The OOD ordered the transit mast raised so we could get a position fix from a satellite. He was now almost comatose with sea-sickness so the quartermaster in the corner of control took over watching through the scope. More sailors came up to control begging us to go back down where it was calm.

Shortly thereafter the navigation crew reported that we were in sync on the satellite, but taking hits on that connection due to waves washing over the antenna mast. As they reported through their announcing circuit you could hear objects flying around in the Navigation Center with all kinds of associated swearing. Duran sounded a little relieved, “Okay, we need to stay

on ordered course and not broach. In a couple minutes they'll have it. Everything is looking good". Why it was looking good I don't know. For me it was still a nerve wracking mystery. We rolled back and forth, the gauges went left and right, we strained in our seat belts being pulled side to side. I daydreamed about how pleasant it would be having a tooth pulled without Novocain compared to this mess.

Suddenly the boat began to lose a little depth. 63 feet then, 64 feet, 68 feet. The planesmen tried to catch it but suddenly we were at 70 feet and sinking. At about the same time the quartermaster yelled, "Scope is dipping – we're taking water over the lens." And then navigation reporting that they were taking losing sync on the satellite." Duran yells, "OOD, we need just a little burst of speed." The OOD muttered something about all ahead two-thirds. The planesman answered sending the order to engine room. The engine room responded with two-thirds on the engine order telegraph. With another retch the OOD hoarsely said, "When I hit six knots I'm going back to one-third or I'll damage the scope. "The OOD sounded very unhappy and was spitting puke as he spoke. The little burst of speed helps us catch our descent at 72 feet and we begin up again. Down a deck below I can hear the chief cook screaming at people to start getting everything tied down. It was too late for that – the ship sounded like it was coming apart.

Just when it appeared we were in control and nearing 62 feet, Duran grabs both planesmen by the shoulders and pushes on them hard. At 62 feet they still have their planes on the rise position. They are just burnt out from all the exertion, screaming and rocking. The ship is rocketing up to the surface seemingly grabbed up from underneath by a giant hand. In seconds we pass 60 feet, 55 feet, and then suddenly we surge forward and up. The fairwater planes on the sail break through the surface with a huge thud. The submarine is exposed. The OOD begins to scream, "Get me down, get me down!" while rocketing more puke from between his teeth towards us. A series of waves hit us and we pitch downward. The fairwater planes hit the surface with a resounding shudder throughout the vessel. Everyone knows we've broached. Hard as it is too believe, the sub is really rocking now. The quartermaster reports the boat is taking 25 degree rolls - then he says, "No they're closer to thirty!" Engineering comes up on the announcing circuit and loudly announces that the prop is coming out of the water and unloading the generators. Bodies of those sailors who came up to see what was going on are falling in all directions. Several men had wedged themselves between control panels and bulkheads to prevent injury. During this mayhem I remained in a stupor just staring intently at the depth gauge which showed us fundamentally surfaced.

Finally, The Captain comes out of his cabin grabbing anything he can to hold on. The Captain calmly tells the OOD, "We need to get down – anything on the surface, cloud conditions?"

The OOD pretends he's been on the scope the whole time. This effort is just making him sicker. He reports to the Captain, "No contacts in any power, full aerial sweep made – no contrails, looks like we are alone. Cloud cover spotty, but seas are up around 20 to 30 feet and

increasing. The wind is causing the scope to shutter so it's bad." All the time the OOD is trying to cover the fact that the control stand is full of puke. In the meantime, Duran is ordering the depth control tank flooded to get us down. The planesmen are pushing down on the planes which has no real effect since the fairwater planes are out of the water and the stern planes are broaching up like a whale looking for air. Completely saturated with sweat I prayed the CO would not notice I was there – impossible since no one in the control room was more than 8 feet from each other. Please God, let me be somewhere else. The Chief-of-the-watch reports how much water has been brought in just as his coffee cup goes flying. I think the COW says something like, "The tank is full . . . the bitch won't take any more water!" Down in the galley a series of cake pans had gotten loose and were slamming back and forth against the bulkheads. In my mind I could see the sailors pouncing on them trying to stop them before someone got hurt. One of the planesmen was almost crying and I heard him whimper, "The boat is coming apart."

The CO gets on the control stand and takes a spin on the periscope also. He slips in the vomit as he tries to hold on. He asks Navigation how much longer to get the fix. Navigation takes a second or two as a commotion ensues and a navigation alarm goes off in their space. Nav responds saying at least 60 seconds more. They also report the rolling is causing the satellite to lose sync every now and then. The Captain tells the OOD, "I don't want to lose this fix. We'll just accept the broach for now. Don't try to get any deeper until Nav says they are done. We're north of the Arctic Circle. No one is going to be up here anyway." Looking at the stains on the OOD's overalls he said, "Geez, clean yourself up when you get a chance."

Coming off the control stand the CO lurched back and forth holding onto anything available. He stepped down to the dive station and says, "Not the best evolution I've ever seen, but the weather is crappy". He looks at me, "You need to study more." Then he laughs at Duran, "I thought you were the best diving officer on the ship! I'm going to have to award your whole party aviator wings!" Duran's face flushes red along with all of us. Now Duran is sputtering and can't get a sentence out. The Captain disappears forward back towards his cabin announcing as he goes, "This is real Navy kind of weather!" Once the Captain is clear, the fairwater planesman power-projects puke all over the deep-water depth gauge. The chunks of the noon meal stick to the gauge right where I've been concentrating my stare. Now I'm not feeling so well and I notice a green tinge to Duran's face.

"Conn, Nav, Transit pass complete. We've got a good fix. Could we please get this pigboat submerged!"

The OOD still pretending to spin the scope yells out with relief into the announcing circuit, "Very well, Nav." Then he comes off the scope and asserts to us, "Dive, get us the hell off the surface. Make your depth 120 feet." After the Captain had ordered us to stay broached the planesmen had quit cycling their largely useless planes. We had also stopped bringing in water to depth control though I don't remember who ordered that – it certainly wasn't me. Now we had to break the surface suction which was keeping the boat from diving – that much I

knew. Duran tweaked my ear telling me to get the boat down. How was I supposed to get the boat down – I wasn't even sure why we were up? I just wanted to vaporize I was so humiliated and confused. I sputtered the words, "what, what, what . . ." Duran simply said, "Just say, "120 feet aye sir", and then tell the planesmen to make their depth 120 feet." By some miracle I squeaked out the words though I doubted anybody but the planesmen heard me since they were only two feet from me. The OOD didn't care. He lowered the scope and just leaned against it trying not to power-project more puke throughout the control room.

We continued to roll side to side. The fairwater planes kept hitting the surface of the water with a large crack. I thought surely they'd sheer off as the shock reverberated throughout the ship. I looked over and saw the Chief-of-the-Watch pumping water to some tanks and flooding more into depth control to make us heavy enough to break the suction. The damn depth gauge just wouldn't go down. We were stuck on the surface wallowing like a coconut. Someone from below yelled up the ladder, "What's wrong with you people – Christ we're dying down here, puking our guts out!"

"Dive, get me down, we're getting killed up here!" said the officer of the deck weakly, but in a pleading voice. We knew he really wanted to get down not just because of the sub's exposure but because of his sea-sickness. Everyone else in control echoed his sentiments.

Duran ordered "Give multiple heavies into depth control". The COW of the watch had already opened the depth control valve fully and had been flooding as much as the tank could take in. Even through the noise on the surface you could hear water rushing into the tanks. Duran then told the Chief-of-the-Watch, "Cycle the Main Ballast Tank Vents – we must have air trapped in there from the rolling." The COW opened all six vents and the indications went red on the ballast control panel.

The torpedo room reported that they could hear air escaping from the forward ballast tanks. Then, ever so slightly, the depth gauge began to crawl down a couple feet. Duran pulled my hair slightly and said, "Tell the OOD we think we've caught it – ask for a full 2/3rds bell". Why was I supposed to speak now? I was for all practical purposes deaf and dumb during this entire evolution, but I did as the Diving Office said. The OOD peered ahead at the depth gauge as it slipped to 55 feet and down with a glimmer of relief on his face. Duran directed that the Main Ballast Tank Vents be shut. We waited for the OOD to say something to increase speed, but there was no response. My terror must have been abating because I was finally starting to feel headachy from the non-stop rolling. I was within a few minutes of getting sick myself. Puking would make this an undeniably perfect day. The fairwater planes smacked one more time, but this time the sound was different. It appeared they were actually under water

For the first time since broaching we managed to actually create a consistent down angle on the ship. It was just a couple of degrees, but the surface suction had been broken. Duran poked me again, "Ask for the full two-thirds bell we're going to need it. Start pumping out water." As usual I stammered through that announcement to the OOD. I told the Chief-of-the-Watch to pump out water, but I sensed he was already pumping out water long before asked.

Again, the OOD did not respond to me for the bell. He might not have heard me or was just pissed about how the periscope depth evolution had transpired – maybe he was too sick. Duran turned around where the OOD was looking up at the overhead in an empty stare and said, “Seriously sir, this pig is really heavy.” The OOD ignored Duran completely – this time it did appear to be a punishment of some kind. In the meantime I’m watching the depth decrease rapidly with very little down angle. We passed 100 feet and the planesmen pulled up to level off at the ordered depth of 120 feet except that wasn’t going to happen. The stern planesman got the angle off the boat yet we kept going down. The COW was pumping as fast as the trim pump would go, but we rocketed past 120 feet, even with an up angle. I was in shock – we were going to the bottom. Duran turned to the OOD and tensely said, “Officer-of the Deck-passing 120 feet heading to hell – we need speed. Permission to blow depth control.” 130, 140, 150 – the numbers were passed on the depth gauge as we went down. The OOD finally looks at the depth gauge, being awoken out of his misery by the increasing up angle of the ship. He sputters out a demand for us to get back on ordered depth! Once again I’m catatonic and the planesmen are ashen white – they cannot do anything. The only saving feature was that the rocking had stopped, but as fast as we were going down it didn’t matter.

The OOD finally orders a full two-thirds bell after complaining that we should have told him we needed speed. Duran yells out, “We’ll need more than two-thirds now!”. Knocking the COW on the knee he tells the COW to blow depth control even though the OOD refused to order it. Blowing depth control with high pressure air was a big deal because it put a lot of noise in the water - a no-no for a submarine. The ship has an up angle trying to recover. Now we’re at 10 degree up angle and still sinking. At 200 feet the Captain comes running out of his cabin sensing both the up angle and hearing, from his stateroom, depth control blowing.

The Captain takes one look around yelling loudly, “What the hell is going on? All ahead full!”

The quartermaster yells out “The Captain has the Con.” This meant that all rudder, depth and speed orders would now be handled by the Captain not the Officer-of-the-Deck. In the meantime, we’re blowing water out of depth control with a vengeance. Duran tells the Chief-of-the-Watch to blow depth control ‘to the mark’ which means nothing to me. I learn later that the COW always marks the depth control tank with the water level prior to a periscope depth operation. This is so the sub can return to that level when they get done with the evolution near the surface. We pass 300 feet still dropping hard, but the bell is starting to take hold and the rate of our descent is slowing. At 350 feet Duran tells the COW to secure blowing. We stabilize, the sub shudders and we actually begin to come up slowly as our speed hits 12 knots. We’re at 364 feet when Duran whispers to me, “Now we might actually be a little light. Once the Captain reduces the bell we’ll need some down angle until we get trimmed up again. “

The planesmen keep their up angle but ease the angle off as the ship moves up through 250 feet. The depth indicator was starting to really move in the up direction. The submarine was now going 12 knots, which was way too fast for patrol speed. You didn’t want

to be going too fast when getting near 120 feet, because there is a theory that sometimes that can cause a ripple that will actually be visible on the surface. With 20 to 30 foot seas it was hard to imagine an aircraft carrier would be visible from above, but no one wanted to be going that fast nearer the surface as a matter of practice. The skipper was huffing and puffing, chewing out the OOD for losing depth control. Our shoulders on the depth control team were all hunched in because we knew we'd be next. No one pays attention when we report that we're now ten feet from our ordered depth of 120 feet. Duran whispers to me, "The problem is that we don't know what our actual trim might be. We could be light as hell or still heavy when we slow down. I'm guessing light, but get ready for some more in and out with the water." I nodded compliantly as if this meant something to me, not comprehending what to do in either case. All I know is that at 12 knots we're holding depth fine even with the five-degree rocking from the surface above. In an angry voice the Officer-of-the-Deck tells the control room that he has re-assumed the deck and the conn. The Captain storms off back into his stateroom.

"Diving Officer are you trimmed enough for a reduced bell?" I didn't realize the OOD was talking to me since I was concentrating on the planesmen cleaning the barf off the depth gauges. Chief Duran answered for me and the next thing I know a two-thirds bell has been ordered up. The messenger-of-the-watch was sent to get towels and a bucket to clean up more regurgitated food remaining in several spots of control.

I was intently watching the depth gauges. Every time we were off two feet in either direction I would panic, forcefully telling my planesmen to get on ordered depth. Still, we were holding our spot in the ocean pretty well with eight knots of speed. Sometimes the rolling of the boat would increase to almost ten degrees, corkscrewing the depth a bit, but after the mayhem of the periscope depth evolution no one noticed. Then the OOD ordered, "All ahead one-third".

Duran tenses up and whispers to me, "Okay it's going to get dicey now. We've been driving the boat through the water with speed, but 4 knots is not enough to keep us here unless we're trimmed. How's the boat feel to you right now?"

I thought, "It's going to get dicey, Are you kidding me?" I had no more idea how the boat 'felt' than a gnat on a buffalo's ass. I did know how the boat smelled and it was still awful. The entire last half hour remained a confused mess to me. I just wanted to be anywhere but here – hugging the reactor would be better, a root canal would be better, shopping for clothes would be better. How did the boat feel? I knew how I felt covered with sweat, panic and only now starting to recover from the dizziness that was a pre-cursor to sea-sickness.

As the speed decreased one of the planesmen spoke up, "Sir, we might be a little light – I'm having to use more down angle on the planes to keep depth." Duran spoke in my ear, "Bring in a little more water."

"How much?"

“A double scosh should do it” Duran looked over at the Chief of the Watch who brought some water in even though I didn’t order it. They were beyond waiting for me to do anything. What would I have ordered? This entire nightmare started with something undefinable as a scosh. The speed of the ship drew down close to 4 knots. As we slowed, the rocking from the storm up above grew - a few degrees more from side to side, but not even close to the craziness of 15 minutes ago. Watching the planesmen I observed they were barely moving anything to keep depth.

“Good”, Duran said, and then told me to report to the Officer-of-the-Deck that we have a satisfactory trim.

“How do we know that?” I raised my arms in a reserve salute.

Duran laughed, “When the OOD is not yelling anymore and the planesmen are about to go to sleep because there’s nothing to do. Your trim is satisfactory – very satisfactory. Parroting Duran as always, I told the OOD that the trim was sat. The OOD got very sarcastic mentioning that it was “about God Damn time”. He also made nasty remarks about all our family lineage and that we were “lower than whaleshit”. The force of it was weak though – he still sounded a little sick.

Amazingly control returned to quiet. The watch began functioning as if nothing had happened. Down below, even the noises of cleaning up had pretty much ended. The messenger offered to go get coffee for everyone. I declined. My stomach was already so acidic and the nerves in my fingers still jangled from all the clenching on my seat pan. The entire watch removed their seat-belts. I kept looking at all the gauges still pretending to understand what they meant. The planesmen were slouched back in their seats controlling depth with a slight push of their fingers barely even paying attention themselves. I was afraid to say anything figuring any comment would lead to some recrimination; however, I was still supposed to be the diving officer still under training, so I couldn’t completely fade away. We gradually made our depth down to 200 feet where it was much calmer.

Suddenly, there was a clatter coming up the central passage companionway and three Chief Petty Officer’s came up with a giant set of aviator wings. The wings were easily two feet across painted in Navy gold. The control room all knew what to expect, but, as usual I was clueless. The Senior Chief Torpedoman made a short speech and awarded me the wings for “flying the submarine out of the ocean.” Everyone was laughing and patting me on the back. The wings were so big it was impossible to pin them to my shirt so I had to hold onto them as the messenger took a picture of me with the Polaroid camera. I was also giving a hastily made up certificate signed by several members of the crew in honor of my not so fine job on my first transit to periscope depth. On a submarine you knew to take the kidding well or there would be more of it. I might have been returning to the land of the living because I was actually a tad pissed. Really - shouldn’t the real diving officer Duran get the award? Technically he was in charge, but I kept my mouth shut. My face still got red and I mumbled as I had been doing for the past 40 minutes, something silly like how I meant to broach the ship just to see what it

would be like. They all thought that was good answer for a complete lie. For the next two hours of the watch from all over the sub individuals would come up to control and I'd have to show my wings to them. There would be multiple examples of crewmen flapping wings like a bird to congratulate me on my "flying" the submarine.

There was quiet in the control room for the remainder of the watch. I sat in the chair, stunned as the planesmen talked back and forth again about having sex with their cousins or livestock – whatever was available. Duran sipped coffee and, while not dozing, appeared to zone out watching me watch the gauges. In my own mind all I wanted to do was make this six hour watch end. I prayed that no one would order anything hard to do– that I could just sit trying to get my composure. The entire six hour, never-ending watch was all a jumble. Other than my huge pair of wings on my lap no one said anything directly about my performance. I hadn't learned a damn thing during the watch except the conviction I didn't want to do this again. Good naturedly I continued to take the occasional kidding about flying the submarine from sailors cycling through control. There was also the far-too-often sarcastic remark from the OOD who was still steaming from the Captain's rebuke. Nothing was like it was in the book or the trainers on shore.

Thankfully the six-hour watch began to end. Reliefs came up to take their turn at the stations. I didn't really have a relief since I was under instruction, but Duran began his turnover with the next real diving officer so I took that as my cue to get out of the chair and try to find someplace to hide on the submarine. Of course, hiding on a submarine is fundamentally impossible. Before I went below to get something to eat Chief Duran said, "Sir, hang on – we need to finish up." I pondered the next embarrassment that I was sure would come. As we moved to the side of the control room Duran continued, "You know that watch went pretty well, where's your qualification card?"

"What do you want my qualification card for?" I assumed he was going to tear it up. That would have been just fine as far as I was concerned, but I handed it to him anyway. Duran grabbed it started looking at slots where there were not any signatures, and began signing things off. He signed almost everything – pumping from tank to tank, periscope depth, surfacing, and diving as if I had successfully accomplished all the tasks. I was in shock. Why sign off what I did not know how to do? In real terms I was now only a few evolutions before going up to a qualification board to officially sit in the diving officer's seat without any help. What kind of lunatic asylum was this?

"Chief, I don't know what happened today – I can't do this, Why are you signing me off?"

"Well you were there and saw the whole thing. Besides, if we waited until everyone got perfect at their jobs we'd never get anyone qualified. Also, the sooner you're qualified the sooner the watch-bill expands. Then we can get some other work done onboard instead of sitting here every 6 out of 12 hours. Anyway, you'll figure it out – most everyone does." As Duran spoke he pulled out a cigarette saying, "The fact is you didn't kill us so I'm signing you

off.” Duran kept examining the card looking for other places to put signatures. On a sub you’d go crazy to have someone signing a qualification card like this so easily, but I was afraid they’d actually qualify me and I’d be sitting the watch alone. The fact was that during the last six hours Duran was the actual diving officer. All I did was blabber and drool. I thanked him in my same recurrent, mumbling, incomprehensible manner and went down to the wardroom for something to eat.

In the wardroom I was still in shock. All I could see were the gauges in front of my face and that awful sound of the fairwater planes hitting the ocean while we were broached. This was decades before the whole idea of post-traumatic stress syndrome, but I’m sure I’d qualify. The cook asked if I wanted something to eat, but my gut was just so tightened up I couldn’t think of food. My brain was so fried I didn’t even go to the head to take a piss after the watch. Considering it was a six-hour non-stop watch with lots of swilled coffee, this was evidence that nothing was working in my head. There were only two other officers in there. The Weapons officer was nicknamed Fritz and he sat opposite me. Fritz was so nicknamed because his father served on a U-Boat in World War 2. Fritz was an experienced submariner having served on diesel boats for 23 years prior to coming to this nuclear submarine. You could see it in his eyes. He was dying to give me a load of shit about the broaching. I seemed to recall he was one of the few who hadn’t made it up to control to congratulate me on my wings. He could see I wasn’t in the mood. Finally, Fritz said, “Did you have fun up there?”

I had slipped into even a more serious declining mental state and mumbled, “Yeah, it was great.”

Fritz stared down at his hands then put them down behind his head. Looking up at the overhead tiles he said, “You know your chances of keeping this submarine submerged at periscope depth in these seas was almost zero.” This ship handles like a pig in bad weather.”

“That’s not what the Captain thinks.” I said sullenly.

“Wait a minute. Did the Captain actually yell at you personally? From what I heard he gave it to the Officer-of-the-Deck.”

I answered, “No, he chewed out the OOD and the OOD chewed me out. I screwed up and the worse thing is that I don’t know what happened. I can’t even remember the watch. It’s a damn blur of screaming, complaining and flying puke.”

Fritz started laughing. “Well, there was plenty of flying puke down here also. First off, he took a piece of the OOD’s ass for not giving you enough speed when you needed it. I could tell that from sitting down here. Second, that OOD has probably stood two watches as a diving officer. They would never embarrass him by taking him up in a sea like that. He stood the watch, they signed him off, and then he went on to be an OOD. He’s a damn nuke – he couldn’t handle the ship if it was his mother’s baby buggy. Finally, no one stays under in these seas anyway.” Fritz pointed up above his head saying, “Look there’s no one up there. We’re a hundred miles north of the Arctic Circle and haven’t heard anything but whale farts for two

weeks. An experienced watch would just broach up the ship intentionally, get the navigation pass on the satellite, and then go down. The sub is not going to stay at 62 feet with seas that are running 30 feet. Hell, half the crew is still puking from the little rolls we're taking down here right now at – what 200 feet?" Fritz threw a thumb in the direction of the wardroom depth gauge.

Fritz was certainly right about the crew. Two hours after the 'surfacing' the ship still smelled of vomit even though all of it had been cleaned up. In fact, the wardroom cook appeared to be the only one still on his feet. He was also trying to feed those who could still eat in the main galley as well as the wardroom, but it seemed everyone had just gone to their racks after the big clean up. Becoming more aware I retorted, "Then why did we not just say that and broach up? Why all the theatrics?"

"Well, it's bad submarining to say you're going to just broach. Technically you always want to say you're going to keep it under. Plus, they wanted to see how the OOD and you reacted. From what I heard the OOD shit the bed and you we're relatively calm during the whole thing." I didn't want to say I was calm because I had turned into a zombie catatonic. I was so frozen into inaction by confusion, fear, and my balls being drawn up into my gut I couldn't tell if they were there anymore. Fritz, continued, "This is the problem with nuke officers. They have almost no experience driving ships. They put them on the watch after cursory qualifications because they have to get them fully qualified to be submariners, but they really want them back aft taking care of the reactor. They know nothing about what is really going on up forward. That's why the Captain was pissed. The OOD put the ship in danger. He didn't recognize that the tactical situation was such that we didn't have to go through all that mayhem just to get a Navigation pass. We're lucky we didn't break something important - or someone for that matter. It was stupidity pure and simple."

I was beginning to feel a little better but my mind continued to spin. I was already worrying about the next time I'd have to stand the watch. God help me, I was already pretty close to qualification. I got signed off that I knew how to do all kinds of things that were still a complete mystery. I moaned in response to Fritz, "but it was confusing, I don't think I'll ever understand it."

Fritz laughed sipping his coffee. Raising his eyebrows, he said, "Quit being a pussy. This submarining stuff is hard and it's going to get a lot worse. Wait until the first time we dance with the Russians on the patrol." Fritz got up to refresh his coffee which poured like syrup out of the pot. He continued, "See, you really need to understand this dive thing because you're going to stand the watch for a long time. No cursory quals and on to OOD. You're an up forward type. We stand the real ship driving watches. The nukes pass through and then head back aft again. Get your head out of your ass and figure it out. Wait until you have to maintain depth and some Bolshevik is up there ready to drop a charge on us if we're discovered. That's the real deal." Fritz stared at the bottom of his cup wondering how old the coffee might have been. He tried to stir the brew with his finger, but it had the consistency of peanut butter.

Shaking his head he said, “God I hate whining. Anyway, with all the plates and cups you broke on the boat we won’t have anything to eat off of until we get back in two months. Look around. This ship is a mess. Stuff is all over. At least you proved we really weren’t rigged for bad weather. Better to find this out now rather than later. I’ve got to go back to the missile compartment and see what the damage is back there. If they haven’t cleaned the puke out there will be hell to pay.” With that he left me in the wardroom picking at some cold chicken and stale bread.

Almost too wound up to sleep, but exhausted and soaking wet from the sweat of the watch, I headed to my stateroom. I wanted to take a shower, but there wasn’t enough water. I went into my stateroom. Like the rest of the ship it had come apart also. The three-man stateroom had a mattress on the deck where my roommate was trying to sleep after being tossed out during the transit to periscope dept. All the drawers were open. Pens, paper and other debris had rained down on the deck on top of my roomie, covering him with junk. He was snoring contentedly even though there was a minor whiff of puke coming from one waste-can attached to the bulkhead. My bunk was askew, but still in its place. The paper I had taped to the bulkhead was mostly thrown all over since not even the tape held during the rocking and rolling. I didn’t care. I climbed into the bunk after only taking my shoes off, and finding enough of a sheet to cover myself. In the passageway outside I could hear some movement as sailors continued to put the ship back together.

Staring at the bunk above me a bare eight inches away, I almost broke into tears. I was re-living the entire watch and couldn’t remember a single thing I understood or had done right. I was too stupid to be a submariner. The ship was virtually destroyed. That was it. I was never going to leave the bunk. I quit. No more for me – even though we had at least nine more weeks at sea. I’d go be a cook or, hell, just send me to Leavenworth for refusal to stand watch. Anything but having to stand the dive again. Somehow during my despairing I fell asleep.

A couple hours later I was awakened by my roommate who had been sleeping on the deck. “Hey, get up.” I was groggy and still feeling like I was oozing in sweat, but now felt cold from the air conditioning. The lights were on in the stateroom. I looked out past the curtain on my bunk and my roomie was cleaning things up. He slowly lifted his small mattress over my head to its rightful place in the bunk above me. He then threw open my curtain fully. I had been asleep for maybe two hours according to the clock on the bulkhead. “Get, up – the messenger just came own. They want you up in control. They’re going back up to periscope depth and want you to take it up again – I guess to see if you can tear apart the rest of the boat.” I closed my eyes and could feel the boat rocking slightly knowing we were up a little shallower and probably clearing the baffles.

No way was I going up there – not me, the hell with that. My roomie looked at me saying, “No really, get up. I’m not shitting you. I told them I’d get you up. Now go. I’m going to stay here and clean up, tie everything down and get ready for another pukefest.” Still, I didn’t move. Raising his eyebrows, he made a move to pull me and the entire bunk off the pan. As a

former Naval Academy wrestler, he could do it. “When you go up just make it quick. I don’t think I can be that sick again.” I closed my eyes again, opened them, and reluctantly slipped off the bunk dropping to the deck as my roomie jumped out of my way. I staggered to the door, not from any rolling, but just from my own leg shakiness. My roomie waved me bye, bye saying, “This submarining stuff isn’t so much fun is it? You’ll know you’re a real submariner when you’re suffering quotient gets about ten times higher than it is right now. I’m just glad it’s not me having to take it up. No one on the boat wants to be you!” I walked to the head glad to see it was in reasonable order. I washed my face and poured water over my head. Putting my game face on, I took several deep breaths and headed for the control room.

It occurred to me that it didn’t really matter how incompetent I was. I didn’t know what I was doing. The worse that could happen that was that I would get yelled at or kill everyone. I looked at the different set of watchstanders. They were already worried because of the seas, and they were feeling down deep what happened earlier. I told the qualified diving officer who had relieved Duran earlier, “I got this. Officer-of-the-Deck let’s get this party started to do whatever damn thing must be done.” The OOD looked terrified. He was recently qualified – in fact most of the watch was fairly new - though most had been onboard longer than I. The qualified diving officer told me the watch was mine. I yelled to the control room, “I have the Dive.” The new OOD replied by telling me to make my depth 62 feet. I replied, “Make my depth 62 feet aye!”

Wings,
Signed off &
Going to bed