III *THE THREE-DIMENSIONALITY OF THE DREAM, or THE ACCESSIBLE PART.*

In pursuing one's fantasies o'er the distant horizon, it is inevitable that one must cope with the material world, the hard facts, the solid reality, separating one from the narcosis of the deep and the transcendence one wishes to perpetuate above.

This narrative has been avoiding, as much as possible, mention of the technical aspect of getting from here to there, and would by choice remain so if I was allowed to choose, only to dream. Since the larger part of this script is not of a fictional nature, however much I would choose to imbue it with poetizing and

philosophizing, I am obliged to maintain at least a token regard for reality.

I maintain no quarrel with technical literature; as a matter of fact, I demand the very same from manufacturers whose products I procure, in order to, in that more remote future when the manufacturer is long dead and buried, not wishing to have his product pass along with him should it fail on me, at least not for the lack of some technical literature; yes, in order to have readily available certain 'enabling' secrets that I might apply to the ailing machine, thus being marginally assured of its unending and undying service to me (a reasonable expectation No?. In this day and age, no one in his right mind would expect any 'thing' to last forever. We are becoming inured to the first principle of Materialism, the Failure of Things. We are also brainwashed into accepting shoddy goods and planned obsolescence...Whoa!...I'm on my stump again).

Even though I demand this technical literature, I find its prose as parched as Death Valley in the summer time, its desiccated prose very useful however, in time of need, but I am not enchanted by it, as I do not feel particularly enchanted when coping with certain aspects of the material world. Most of what has been said in this context is being offered beforehand as some kind of apology for what follows.

However inadequate the apology, and however mundane this three dimensional stuff purports to be, there is one very vital consideration at stake contained therein: the cost of obtaining a Shipwright to do things you might be able to do for yourself. In fact, in the marine business, it is possible you may act as your own Shipwright, and Banker too, if you have the desire, a prehensile quality to your hands, as well as a mind to direct them, along with some patience; all of which capacities and capabilities we have been furnished, and have but to exploit the artisan within ourselves.

Having both built and repaired and adapted equipment of various sorts used in scientific research, I had noticed, that, after a time (having engaged in this profession for twenty-odd years) the older machines became, the more often they seemed to fail, and the less abuse they could sustain. One could never consider a machine so perfectly manufactured, updated, or so adequately repaired, as any guarantee against failure.

I cannot let this one pass; in response to a telephone call to a manufacturer of an expensive piece of scientific instrumentation (seventeen thousand dollars in 1966) which failed repeatedly, eliciting from me an irate phone call demanding replacement,

followed by this written excerpt ... 'Our parts are purchased from the best known vendors in the industry, and are approved and checked by them before shipment to us. In addition, we have in house quality checks which will eliminate the vast majority of early instrument problems. However, to eliminate every one of these so that no failures occur, would price the instrument out of the market, and excellent research apparatus would not be available to the research worker at a cost he could afford to pay...' This excellent research apparatus failed some forty-eight times in the first two years, eventually having to be replaced. Can you imagine your marine equipment failing that often. The argument contained in the letter, more or less states, that one is obliged to buy a well-intentioned 'pig-in-a-poke'. Is this truly the best argument our science and technology can produce? Not the best, but the only one. To wit: Morton Thiokol, a well-known major malfunction.

Anyway, to continue; it was always just a matter of time. Turning a laboratory full of aspiring scientists loose on sophisticated equipment was anathema to its longevity; it simply was never rugged enough; or, for that matter, designed with an inherently abiding stoicism. The budding scientists (prima donnas) were naturally inclined to redesign, what, in their view, was the insufficiency of the material world in keeping pace with their genius; once again, this practice tending to shorten the life of the apparatus.

Besides the human factors, the very nature of the thermodynamic relationship between heat and work seemed the true enemy of all man's fondest efforts at rearranging matter in order to serve him. Machines never renewed themselves. Even standing still for years would discover them falling victim to rust, volatilization of their lubricants, coated with dust or grime. In addition, Jazzercizing and Aerobics produced as little towards immortalizing the machine as it does for humans. A machine was and is a downer.

Marine engines, exposed to salt water, receive a double dose, in addition to the usual thermodynamic wear and tear; they live in a corrosive environment; they sit idle for long periods of time; many are not properly maintained. There exist lots of insidious little electrons (and other proglies) running around between the dissimilar metals in a salt water electrolyte; it would eat your heart out to see what this does to your pretty and expensive little 'iron sail'.

The foregoing was a bit of a prelude to scribbling some lines concerning our decision to change engines in the ark, ATAVIST.

Our 'iron sail' was fifteen years old, and beginning to 'rot', as they say in the marine business. A rotting engine is one that simply looks like it is returning to one of its native starting materials, iron ore; it takes on a reddish-brown rocky appearance; it becomes flaky, pitted and crumbly; sometimes chunks of it come loose in your hand. Parts for this 'old salt' were not easy to procure, even though the manufacturer's manual claimed the company would continue to produce parts for twenty-one years after the manufacture of an engine, (imagine, nowadays, even putting such a statement in writing). The fact of the matter remains that the company had discontinued that model engine very soon after our four-banger was made. I know it appears I'm about to impugn (got me figured out eh?) some corporate entity. I'm sure some accommodation could have been worked out with the company in an emergency. The only catch or obstacle, as I viewed the situation, existed in the arrangement between the manufacturer and dealer, the manufacturer having insisted all procurements must be obtained through a 'recognized' dealer (sounds familiar, eh wot?). The dealers I had contacted were either in the process of discontinuing their manufacturer-dealer relationship, or were interested only in selling new engines. I must admit, when the time arrived to consider purchasing a new engine, this was one manufacturer whose products were placed at the bottom of the list. In my view, those corporations and businesses who fail to perform in the service area (this means farming out their responsibilities to ***laissez-faire*** intermediaries) have become the heretics of our materioconsumereconomical orthodox religion (there are 'phonies' adhering to every kind of religion).

Needless to say more concerning this vital chain. You may easily imagine the 'scenario' when the manifold cracks or the head springs a leak or some other 'vital' component fails when one is off in the proverbial 'boonies'. With our old iron sail, I knew in my very soul, based on all my past experience with the material world, that blind faith, as blind faith in anything, would not overcome the forces laboring to reduce such a reliable servant to a pile of dust ...er... rust.

I wanted to enjoy our little adventure; I did not wish to expend the whole time calculating when something would fail; I did not wish to listen to all its rumblings and clacking sounds as it idled, wondering if they were becoming louder or more dissonant. I did not wish to fasten my eyes continually upon the temperature or oil gauge, anticipating the worst. And lastly and not leastly, I did not wish to wear an extra suit of apprehension worrying over gasoline leaks in the fuel lines, fuel pump, carburetor or fuel tank itself.

And, Alas!, the old chugger could not deliver the horse power anymore, if it ever could, to push through a strong current or against a stiff wind and choppy sea. You ask, perhaps rightly so, where are the sails? Truly, upon the open ocean one might have abandoned the iron sail, as did Moitessier from Joshua; for one would never broach the merest portion of the sea before he would have consumed all his fuel. But in coasting and taking in the scenery of the fjords and sundry other aesthetic considerations, one, more often than not, does not find a wind, or if he does, perhaps a contrary one in a narrow space, or, perchance, a current that wills one's craft contrary to his wishes, or combinations thereof, which would doubtlessly imperil a vessel under sail alone. Ah Yes!, then, indeed, one might consider how he ought be spending his time!. And indeed, we pass on once again, our KUDOS to Captain Vancouver, Lieutenant Whidbey, and Lieutenant Puget, Lieutenant Lasqueti; and one ought include the Tlingit, Haida, Kwagiutl and Nootka, Chiefs and Subalterns alike, who managed with sail, lead line and paddle.

Thus closer must I navigate to the main part. In the proposed Alaska journey, we would be travelling, in the six months allotted, some three-thousand nautical miles, which would represent ten times the distance usually covered in our one month of summer cruising. Until the Alaska trip, the cumulative distance we had traveled during our entire period of ownership of ATAVIST, totaled only slightly more than half the distance we had expected to cover. Given the problems we had already experienced with our Iron Sail, and ones I did not wish to anticipate, it was without question, time to re-place the engine.

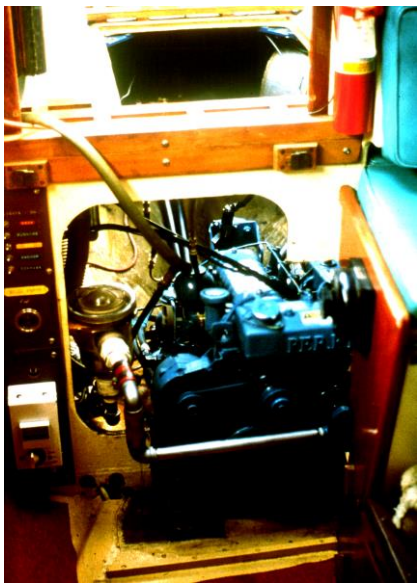
Our iron sail had not been fresh-water cooled. The throttle control was similar in design to the spark advance on a Model A Ford. The shifting lever consisted of an arm extending from the side at the base of the pedestal steering column; when maneuvering ATAVIST in tight quarters, one was obliged to use his foot part of the time, and his hand part of the time, using the same hand for throttle control and shifting control; an observer might wonder what strange calisthenics was being performed and why. Obviously some remedies were needed. The engine considerations unfolded in the following order: diesel fueled, fresh-water cooling, weight/horsepower, four cylinder vs. two cylinder for smoother running. Actually the four became the necessary choice for its extra horsepower, since we could not use gear reduction, in that we could not 'swing' anything larger than a twelve-inch diameter screw. Direct drive was our only option

without redesigning the boat. To continue down the list: for ease of control, a single lever for throttle and shifting; ease of maintenance, which also included accessibility of regularly attended parts.

Alas!, already I'm becoming parched in these descriptions. Who, and how, and at what cost? My first choice for engines would have involved a design equipped with a variable pitch propeller, all provided as a unit. This unfortunately would have also required rebuilding part of the keel (increasing its mass) to accommodate the increased stern-tube diameter for the variable pitch shaft housing. I would also have preferred this design because its dealer was most accommodating, also he had convinced me there was only one true marine engine in its class; his was the one; all others, he claimed, belonged in taxi cabs. Alas! to have to deny a singularly engaging and humorous fellow was a disappointment to me.

There were perhaps a half-dozen names of repute to choose from; I was partially guided by the boat manufacturers suggestions, the availability of dealers and service, and what in the end became an unflinching blind defense of my inevitable choice which fortunately I have not been obliged to defend to myself in the quiet recesses of my inner being.

A new engine bed would be required, part of a bulkhead removed, and the cockpit sole would need to be redesigned to accommodate the new iron sail. While I might have considered sparing no expense in the purchase of a new engine, I began to exercise some frugality when considering the cost of having someone else accomplish its installation.



The new engine eventuated to be equal to the weight of one man heavier than the old; it required a new, increased diameter shaft, which the existing stern-tube could accommodate by merely changing the 'cutless' bearing. A new three-bladed propeller was required. The engine bed needed to be moved forward (towards the center of the boat) in order to better distribute the weight, also to allow clearance for its flywheel housing. The cockpit sole needed to be designed as a hatch in order to allow access, with the whole human body, to the engine, shaft,

shaft log, and packing gland. The new engine encroached upon the cabin under the cabin ladder, the floor of that part of the cabin requiring reinforcing to a 'strong-back' rigidity to accommodate the forward engine mounts. After the old engine bed was removed, the new bed required a grinding away of all the old fiberglass and carefully exposing a clean glass hull upon which to adhere the new fiberglas component of the new bed. Not a small amount of labor - and potentially very costly!

Thus, it was not too difficult to decide to become my own shipwright and banker simultaneously, by having ATAVIST transported by truck to our front yard where I could perform all the necessary tasks myself. The cost of trucking and craning the boat around would not amount to the costs anticipated to accomplish the planned installation and modifications; in addition, I could know what was being done, having done it myself; and it allowed me ample opportunity to accomplish many other small projects as well.

As this part of the narrative is beginning to prove lengthy, I shall only further comment, it was pure delight when it all materialized as planned. Only one minor problem ensued. In packing the shaft, I used a standard oakum packing material, placing three wraps on the shaft, snake fashion, instead of the two segments observed on the older smaller shaft. I imagined three would create a better seal to keep Neptune's element from entering deviously into our water borne home; and that it might last longer (so we amateurs rationalize). In the first place wrapping was a mistake; it created too much friction, tending to tighten around the shaft as the coil that it was, subsequently heating the shaft and the packing gland, no matter how much water was admitted, acting as coolant. The next corrective was to cut the packing material into three separate rings; this also proved to create too much friction, unless one allowed copious quantities of Neptune's element to pass through the gland. By now you have guessed, I returned to the two separat rings found in the original installation (which have to be periodically replaced); by doing so, I achieved the proper amount of sealing versus adequate cooling, and cooling versus friction, so as to admit only the fewest number of drops through the gland. Practice triumphs over theory! Prior experience or asking a few questions of the right person would have saved me some problems in this regard.

All in all, most everything had transpired as planned; a new diesel engine, equipped with fresh-water cooling, in addition a hydraulic transmission, and a single lever control of throttle and

shift located in some handy place for the operator; also, as a bonus, an oil cooler for the engine oil and the hydraulic oil.

In listing my complaints to the dealer, with regard to the engine, things which he attended to immediately, he asked if I thought the engine had all four pistons, then said, "don't be surprised if you find somebody's underwear in the crankcase'. I supposed this as some kind of backhanded confidence-building (Like the radiologist physician said after doing brachytherapy on my prostate, “That was almost boring”.) In general he reassured me I had done pretty well - the rest I really did not want to know. The engine hasn’t failed, whereas the ‘boring’ prostate has.

To bring to a close the most desiccated part of this narrative, that will soon begin to produce cracks in my lips, as shipwright and banker, I had revamped the access to the engine compartment for admitting the whole body as opposed to only a hand, or hand and arm, or hand, arm, and head, or a grossly compressed upper torso locked in some rigid position that prevented adequate vision and absolutely no room for articulating one's anger when he dropped a screw into the bilge.

Also, as a peripheral benefit, but not insignificantly, I added stainless steel mast steps (a la Moitessier) which I had fabricated three years earlier, plus a second sailtrack, to the mainmast for hoisting a storm trysail, plus an anemometer atop the mainmast; and to the mizzen, more steps, and a VHF antenna for a new VHF radio, plus rigging for a mizzen staysail. I added a second depth sounder, an electric bilge pump, a new stainless steel bowsprit (which I had fabricated), a new 'paint job' to all the paintables and a waxing of the hull and deck. I'm convinced, if you are not.

Before I shut the valve on this …er…technical fluency, I should mention something more anecdotal by way of illustrating the whims of amateur shipwrights, not a little Quixotic in their readings and a bit like Zorba the Greek in their dubious successes.

In reading one of those tomes rife with frightening accounts of ultimate storms and how to be prepared to parry their issuance, all being directed towards a recommendation of the ultimate design and sufficiency of craft to endure, wear, and weather such horror, I consciously absorbed what was being soberly harangued regarding 'pooping'. 'Pooping' describes the phenomenon wherein the sea decides to pounce upon the stern section of one's craft, coming aboard for a prolonged visit without so much as a "by your Leave?". Some vessels have sufficient buoyancy to parry these impolite deluges, although, perhaps losing way, or being slithered this way or that as though having slipped on an icy roadway. All

well and good, unless you happen upon the open sea with a large cockpit, that same cockpit which you found so commodious on a Sunday afternoon in the marina, or which, in an average torrent of rain, will drain away the accumulated water, in bathtub fashion. Our "Escape to Reality" housed an immense cockpit with a single drain, equipped with an opening slightly larger than a bathtub drain. I will not mention all the other problems associated with this cockpit, given those horrible eventualities alluded to, but suffice to say, without engaging in a ***scandalum magnatum*** regarding a certain Naval Architect, that in the event of a 'poop', the volume of water it could hold would weigh approximately six-thousand pounds, one half the total weight of the boat (five thousand pounds of which already was dedicated to ballast).

ATAVIST would certainly be down by the stern; doubtlessly some of the volume of water would slop out, if it wasn't so submerged as to be awash. Doubtlessly she would be very sluggish or near dead in the water, ultimately vulnerable to the 'ultimate'. Perhaps there would exist no hope. Get into the dinghy (if it didn't get swept away in the 'poop') and begin to compose epitaphs.

In order to promote hope I took the liberty, as amateur shipwright, to oblige the dictates of the scary literature, by adding two large cockpit drains, each with two-inch diameter openings. I never did experiment in my front yard, in order to discover how long it would take the, now, three drains to empty this bathtub, but I did discover when underway, heeled some twenty-five degrees, even though I had crossed these drains to the opposite side of the hull, they simply attempted to fill the cockpit to the level of the sea. And even when going downwind, as a sea would pass beneath the stern, when she would settle into the following trough, the water would rise in the lines pouring into the cockpit, once again attempting to reach the level of the sea.

Ah So!, obvious to say, some cry for modification was in the wind. If these drains were ever to be useful <u>at all</u>, they would require check valves to prevent the sea from equilibrating within the cockpit - and function only when Atavist was more obligingly suspended.

It might be wiser to cover the whole cockpit over, for I have the vague suspicion that, no matter how many drains, with three tons of water, the stern would set so low in the sea, the drains would admit as much water as they would expel. Perhaps the only solution would be a mild eighty degree broach or roll

dumping most of the unwanted liquid ballast overboard; perhaps then a little bailing would be of more avail. EXEUNT.

To wit: the ***scandalum magnatum*:** Since ours is, or was, a proprietary design, the Naval Architect may be precluded from amending his design. However our "Escape to Reality" should be labeled with an admonition USE AT YOUR OWN RISK or CAUTION: 'Sailing May Be Hazardous To Your Health'. Since our adventures have not invaded the regions reserved for the bold or incautious, we have not suffered exposure to 'pooping', therefore cannot, in truth, elaborate beyond our cautions and prejudices.

Yes! I heard you chuckling, "Why not get a different boat?"

I realize this last leaves you, rather than high and dry, quite the opposite. One gets pretty damned wet reading about the Ultimate Storm.

We have thought of a new boat, who doesn't so muse? Economics will dictate as always. As it is, we have poured so much time, effort, and the old moola into this, our very own 'sink-hole', we have somehow grown attached to HER and fond, in a peculiarly human way, of living with our mistakes, in hope, that in enduring them, we will emerge as martyrs.

Most likely we'll not take to the open ocean in her, as we might not do, in the ultimate design. Already we discuss boarding freighters to travel to distant places, as an alternative to high seas adventures.

To the last, we hope to remain, in any case, 'Captains of our own Souls, and Masters of our own Fates', in spirit, if not entirely through our inactions.