DO WE USE ALL OUR SENSES?

BY

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Your ship is rather ancient and you, shall we say, are young enough to be a watchkeeper. The place could be anywhere but the engine room is hot. The time could be anytime but it is in fact 0200; the time when one senses and reactions are most dormant. In fact there is no need to take more than an automatic interest as you once again let your eyes stray over a motley assortment of gauges on at least six differently shaped and positioned gauge boards. Something inside you says all is well. In a hazy way you look at a young M(E) who is propping up the desk as he writes in the register. This is just the same as many other middle watches you have kept. You wonder how many; if you had more energy you could calculate. The M(E) moves over to the 'phone and you know instinctively he is asking the boiler room for feed tank readings, etc. Maybe you ought to go over and see how they are over there. But it is a long way up and over;

there's an air lock too. Everything must be alright as theyv'e not said anything.

However, you think of those places which are not manned, the fan flats, but reassure yourself by remembering that they must have been visited by the oncoming watchkeepers, the Engineer Officer's Standing Orders lays it down. You remember, with a start, that when you came on watch the Senior Watchkeeper had said something about the port after plummer block running a little hotter than usual. You had almost forgotten and the remembrance sharply jolts you back to reality.

You tell the Chief of the Watch that you are going on rounds aft. The messdeck is cool but dark as you crouch your way below the hammocks to the hatch. As you lift it you hear the rumble of the shaft down below, you have heard it many times before. Then you listen again, more intently this time, it is not quite the same. There is a swishing sound. Quickly, fully alert now, you hasten down the ladders till you are at the bottom and there you see, to your horror, water. Swiftly your eyes scan the shaft passage and soon see the jet of water escaping from the cooling water pipe. The damage is slight, the water level just touching the shaft. You thank your lucky stars.

The remedy is easy and swift and in the morning you inform the Senior with pride how you prevented a major flood. He seems to take it as a matter of course that minor problems should occur and that you, as a watchkeeper, should bowl them out.

How many times have you had your attention drawn to the smell of burning oil? It is pungent and all pervading. It tells you that somewhere something is hot enough to make oil burn. Once again your alertness is intensified as you look around for the tell-tale smoke.

Again, maybe as the Chief of your own frigate, asleep in your bunk, you are awakened to the feel of the ship vibrating. Instinctively you know it is an Astern movement and you quickly don overalls, over pyjamas, and hasten to the engine room. Curiosity urges you on although you know the watchkeepers may only be carrying out a planned, orderly, manoeuvre. You are not satisfied until you have seen for yourself that all is really well.

Now, imagine yourself isolated in an air-conditioned and virtually soundproof box, called a Machinery Control Room. It has rows of orderly gauges, control knobs and neatly laid out telegraph order and repeat indicators. It has microphones and loudspeakers for communictaion with the machinery spaces, the Bridge and HQ1. It has seats. You can see what is going on. There are enough gauges to tell you the position of each remotely operated valve. By operating a lever you can replenish, supplement and cross-connect. There are more knobs than a theatre organ and you play it without listening to the music. The whine of a forced draught blower is music to some people. Why, therefore, move out of the MCR?

Ponder awhile, can you use your other senses in an MCR? Can you really hear, smell and touch the machinery which may be either one deck down or one bulkhead along? An MCR can only replace your senses when it is possible for the designer to supply adequate instrumentation. He meets the needs essential for ship operation and safety. But he must also consider cost effectiveness for price and maintenance. An MCR is, however, a splendid place. You will agree there are many advantages although it is doubtful if the designer would agree with the JM(E)'s order of priority. The designer knows he can achieve a reduction in watchkeeping complement and a high degree of automatic or remote control. The JM(E) much prefers the cool quiet comfortable stool to the old hot noisy boiler room.

The designer provides instrumentation to operate the propulsion plant under normal and minor breakdown conditions. He even provides such fire warning devices as Minerva or Graviner. However, to cut costs, both financial and maintenance, he doesn't fit a TV camera, vibration meters to every machine, flood

warning devices and a device for smelling. He relies on the JM(E) to provide these senses when he does Rounds.

Now, you may ask, who can rely on a JM(E) to carry out such Rounds? The answer is surely no one, until the JM(E) has been trained to use his eyes, his ears, his nose and his sense of touch. Therefore it is just as necessary today as ever it was for the experienced watchkeeper to teach watchkeeping to everyone who may be required to operate a ship's propulsion plant from an MCR. Unless we do this there will inevitably be escallation of MCR instrumentation to such a degree that the preparation for sea will be like the count-down for a space launch. There may be even the same delays due to a relatively minor control-room defect.

Have you ever stopped to consider the effect of damage caused by the odd missile?. We do operate warships! This missile may, if you are lucky, only sever one control circuit. What happens then?. Should the controlled valve move to shut, full open or just stay put? On this decision may depend the whole sequence of actions to be taken by the MCR operators. If you are unlucky you may find you have lost a source of control power, particularly if it is a pneumatic system. Then you will have to revert to full manual control. This situation has to be worked up to a high degree of proficiency well before the event happens or the resulting chaos may be more than serious. Of course, if you are very unlucky the main propulsion plant may be affected and you will have to be able to carry out rapid breakdown procedures to prevent a total loss of power.

All these possibilities have to be considered, planned and catered for. Inevitably it is necessary to compromise between an expensive, vulnerable all-singing, all-dancing MCR and a cheap, simple, robust, 'handraulic' MCR. As always it is something in between which hopes to gain the advantages of both without the disadvantages of either. This, of course, is not generally possible and it is our job to recognize the disadvantages and take steps to ensure that human senses and human muscles take over where and when the mechanical and electrical controls cease.

Is there a moral somewhere in this? What do you think?