Logbook 9 (from 04/12/05)

Only the change is constant.

This logbook entry is the first one dealing with a non-precise, relatively old but unique instrument for measuring Antarctic conditions: me! A travelling observer - there is no other way! - should act like a sponge to gather all the available data, information, facts and figures.

But let's talk about hard core-science, which is closely linked to cores, ice cores. Those are long cylinders that have to be cut out of the ice floes by motor driven corers. Apart from two important groups on board* of *Polarstern* each and everybody is longing for cores. They are their bread and butter. *Matthias Steffens* from the University of Kiel knows the crucial point about working with cores: „When you cut cores into pieces or let them melt there is no way to observe their further development, which would be an interesting thing to do. The experiment itself eats up its objects.“ To minimize this handicap almost all scientist gather once a week and collect cores from a small area (which provides comparable conditions) and process them. One group after the other, if possible. This makes it easier to obtain results of interdisciplinary work. For example: Which nutrients do ice algae utilize at which quantities? How does the thickness of ice influence the transparency of light, available at the base, where many of the algae thrive? Which effects do high salinity and UV-light have on them? Who are the grazers of ice algae and who eats the algal-crumbs dropping out of the ice down to the abyss? Do they, by help of bacteria, become part of the famous DOM (dissolved organic matter) - one of the greater mysteries of current marine chemistry?

Quite a lot of top analytics, sophisticated apparatus and knowledge! Facing all that the „on-board-expert-for- simplification“ (me, in other words) feels a certain relief, that simple things can have a tremendous impact on scientific progress. For example, when one of the engines driving the ice corer, began to stutter although it had worked perfectly when tested on board of *Polarstern*. *Sascha Willmes* from the University of Trier uttered a remarkable curse that had a healing impact on the engine: „If you go on causing problems like this I'll mount you on a lawn mower. And you'll end up in disgrace!“

But some decisions are no longer in the hands of the *Polarstern*-people. The divers for example were still discussing whether they should give up their ice hole or not - when a mighty leopard seal claimed it for his private use - just as their hole broke off from the main floe and drifted apart. Maybe a smooth ice edge will be a suitable substitute for further work to come.

Drifting ice is different! This is what *Robin Muench*, oceanographer from Washington State, U.S.A., said when asking me how I feel about this environment. Well it is different! As a schoolboy I saw pictures and movies of deserts and rain forests. And when I visited them some years later they were - plus/minus - as I expected them to be. But no pictures ever gave me a glimpse of Antarctica with it's magic blue light coming out of ice holes and it's stunning dynamics: where there was blackish open water yesterday you find a triple sandwich of ice layers topped with cottage cheese today.

* These are the oceanographers, and the meteorologists who try to find out how the gas exchange between atmosphere, ice and water works.