

In the bleak midwinter

Dumont d'Urville

"PEOPLE who overwinter have a little bit missing in their brains", jokes Jacques Wiget, a veteran of 26 summer expeditions to Terre Adélie, but who has never stayed for the winter. And, while the 33 overwinterers greet the first supply ship with some enthusiasm — it brings fresh food, news from loved ones and new faces — there is also a tinge of resentment. The influx means the end of a nine-month intimacy which, for some, is so powerful that 'normal' life back home becomes intolerably empty.

At Dumont d'Urville, about one-third of overwinterers are on fixed contracts — the two chefs, the engineers and mechanics — and are paid nearly three times their salary back home. But, says Claude Bachelard, EPF's medical officer, money is rarely the main attraction.

Rather, as 'Paulo' Thiebaud says, it is to "clear off and leave everything". And Patrick, another overwinterer who has been before, feels more at ease on the base than in France. After his second winter his wife left him. And, ever since, he has had neither a permanent address nor a permanent job back in France. He has already applied to overwinter at the new base at Dome C when it is opened.

Nowadays the risks due to the cold or to malnutrition have been almost eliminated. But last winter, one young man suffered severe frostbite when he slipped on the ice and lost his gloves while out walking. He became severely depressed and tried to commit suicide by throwing himself off a cliff.

"Yet", says Bachelard, "the main risks are now psychological", due to poor adaptation to isolation in a small, closed society and to the repetitive, highly automated work.

For most, the experience is a rare and positive part of their lives, giving them more independence and confidence. But there are problems almost every year, despite psychological screening of candidates. "With only two candidates for each post", says Bachelard, "real selection is not possible". A few years ago, a meteorologist walked out into a blizzard to check instruments and never returned. "Was it suicide or an accident? We will never know."

The 'overwintering syndrome' is now well-known, with bouts of aggression, withdrawal and depression. "There are three main risk periods", says Bachelard: March, when the supply ship leaves for the last time, "is when people start to wonder why they came".

Then, in July and August, when it is darkest. "The lack of sunshine works on a man", says Paulo Thiebaud, "it can make him or break him." Finally, there is the moment to return home. This, says Bachelard, is when those who were escaping marital or other difficulties realize that their problems have not gone away.

Traditionally, midwinter (21 June) is a chance to let off steam and is celebrated in Antarctica like Christmas day — with a difference. Last year, celebrations lasted a whole week, including a picnic on the dining-room floor amid cut-out fir-trees, drag acts, rock music and doing just about everything conceivable to one's hair.

Much can depend on the base leader. And when, as last year, it is Claude Chaufrisse, all is practically guaranteed to go smoothly. Chaufrisse has overwintered 11 times. "I get the impression that there are more overwintering problems back in Paris than here", he says. "The essential thing is to respect everyone and not let anyone impose himself", he says. And a potential source of friction is between the different groups or ages of staff.

Most of the laboratory technicians (a third of overwinterers) are *volontaires à l'aide technique* or 'VATs' doing their military service. The remaining third are either civil servants (the meteorologists and the district administrator) or army personnel (the radio operators, the surgeon and one technician).

"Once you have detected the qualities and defects of everyone, you have to try to get the best out of them. It's better to help the chef make his best dish than to let him open a can", says Chaufrisse.

Usually, about 20 per cent of overwinterers come back again. When they have overwintered with Chaufrisse, the figure can be around 50 per cent.

"We are savages, it's shameful", says Paulo Thiebaud when he thinks of his wife left to work in a shop back home. And Dumont d'Urville is not for women — at least not in the winter. During the summer, three or four female researchers, journalists and visitors may pass thought the camp.

But it is unofficial policy not to have mixed winterovers and no one has suggested adopting the German scheme of alternating male and female teams.

For Claude Bachelard, the problem is one of safety — the clinic is not equipped to deal with gynaecological problems and a pregnancy could be very dangerous. For others, women would 'upset things', 'create jealousies' or could not handle the conditions.

Yet women (in photographic form) are present in many laboratories and dormitory rooms, while telephone bills for calls to wives and girlfriends average FF6,000 and can be as high as FF35,000 by the end of the year.

There have been women candidates, says Bachelard, and two passed the psychological tests. But they were later turned down in favour of men. Claude Chaufrisse thinks the French will eventually accept women overwinterers "but not with the present administration, it is too rigid".

Vive la difference? The way is open for any eligible female to test sex discrimination legislation. **P.C.**

Dome C: new Antarctic base

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WHEN in 1982, TAAF's scientific council organized a meeting of experts to reflect on French Antarctic research for the 1990s, most agreed that a second base was needed. They also agreed that it should be at Dome C (124° 10' E, 74° 40' S), 1,000 km inland from Dumont d'Urville. Four years after Paul-Emile Victor retired as director, French polar expeditions (EPF) needed a new direction. Without the new base, research at Dumont d'Urville would probably fizzle out, leaving mostly automated collection of weather data.

With Dome C — manned by 15 overwinterers and 25 more researchers in the summer — France hopes to reinforce its good reputation in glaciology, to carry out studies on the ozone layer, in astronomy and in human biology. That the site is in the Australian territory is not a problem. Under the Antarctic Treaty, claims to sovereignty are suspended.

In any event, says research minister Hubert Curien, there is every chance that the base will be international, or at least European.

Dome C has already proved its scientific value. In 1978, Claude Lorius, director of the laboratory of glaciology and environmental geophysics at Grenoble and former president of SCAR, led a successful expedition to the site, with logistical support from the US National Science Foundation and the US Air Force. The team extracted a 950-metre ice core, which is providing palaeoclimatic information on the past 32,000 years.

Now, with growing interest in global climate change, palaeoclimatologists want to compare ice records from the two hemispheres. Dome C should provide the right kind of ice to compare with cores from the Northern Hemisphere such as Eurocore and the Greenland Ice Project.

For Bill Budd, professor of meteorology at Melbourne University, Dome C is "one of the opportunity sites in the Antarctic". The quality of the ice and the existing 950-metre hole make it a good site to attempt to drill the 3.2 km down to the bedrock, he says, surpassing the present 2.2-km core from the Soviet site at Vostock. There is little snowfall at Dome C — so that a relatively long period will be covered by palaeoclimatic studies of a given depth of core, even if seasonal variations may barely be detectable.

At the same time, the ice hardly moves, reducing the risk that a core will contain ice and traces from different sites. At Vostock, the older the ice, the further it has travelled.

According to Gérard Mégie, director of the CNRS aeronomics service and president of the International Ozone Commission, Dome C will also be a key site in the Interna-