Chapter 3

Periodizing the Year

For many years, experienced international athletes in most sports have recognized the necessity of stressing different objectives during the year, and different objectives in off-years than in World Championship or Olympic years. Their aim simply is to reach a peak at a very specific time. In planning their training over a long period, these athletes (or their coaches) know the following principles:

- The body adapts best to fewer stresses at a time than to many. For example, one can aim to develop the aerobic system (high physiological stress) at the same time as technique (low physiological stress), but not the aerobic system and the lactic acid system (high physiological stress).
- The net adaptation is greater if you work successively on one energy system, then maintain it while concentrating on another.
- Work first and longest on those aspects of your sport which demand more time to develop. For example, it takes longer to build up endurance (3-4 months) and technique than it does speed (6-8 weeks).

Training Unit

A training unit is a single session devoted to achieving a particular objective, such as increasing speed, improving certain techniques, or race pacing, for example. A day's training might consist of several different units; however, each is designed to work on a particular weakness or reinforce a particular strength.

Microcycle

A microcycle is a group of training units combined in such a way as to achieve a total objective. For example, if increased speed is the desired goal, two weeks' worth of training units oriented towards speed development might be in order.

The units comprising the microcycle could consist of things like short sprints. Microcycles can be repeated many times during a season.

Microcycles permit the paddler to concentrate on one particular objective, which inevitably means that he will be more efficient in pursuing it. Microcycles also help avoid boredom during periods of intense training. If microcycles are not used, there is a tendency to rely too much on one standard workout or variations of it, with the result that performance levels plateau and stagnate.

In creating microcycles, the following factors must be weighed:

- The athlete should not be subjected to many extremely hard workouts, back to back, since he will have great difficulty recovering from them.
- Each training unit should pursue a specific objective and should vary from day to day so that the workouts are not dull.
- The interval between two similar training units should be long enough for the paddler to recover.
- Recovery will be accelerated if units of active recovery are interspersed between other units of training. For example, in a training session, if the athlete is switching from an endurance unit to a speed one, several minutes of easy paddling might be indicated before starting the next unit.
- However, if training units with very different purposes follow each other, active recovery units may not be necessary. For example, if a paddler is switching from a speed unit to a technique one, a separate recovery period might not be necessary.
- Workouts which stress maximum strength should be scheduled for days when the athlete is at full capacity, and not following extremely hard days, especially if the LA system is involved. A similar rule applies to workouts held in one day.
- Generally more than 24 hours of recovery are necessary from very hard workouts. Thus, one might have an extremely hard workout in the morning of one day and another hard one in the late afternoon of the next.
- The best improvement in performance comes when new stimulus to the paddler comes at the highest point in his overcompensation phase. After a paddler goes through a workout, his capacity is reduced for a while until he recovers from the stress. He then reaches a capacity slightly above the original one. The process is called overcompensation. But reversability sets in after a certain point, as Figure 8 shows. The trick of training is to have the next workout come at the highest point in the overcompensation phase. In this way the boater will enjoy the steepest improvement curve. Conversely, if insufficient recovery is allowed, the boater will actually get worse — known as "overtraining." There are various scientific methods for determining just when the next workout should be done, but they are

too impractical for the average boater to use. He has to rely on resting pulse rate and subjective feelings instead.

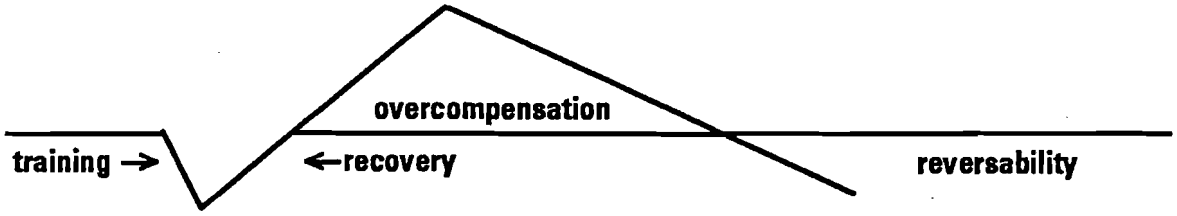

Figure 8

Macrocycle

A macrocycle is the sum of units and microcycles necessary to achieve a certain purpose in training. For example, a boater may engage in a six-month macrocycle designed to improve his aerobic system. The macrocycle may be broken down into microcycles as follows: the first, in which the boater does distance paddles with medium intensity; another, in which he adds fartlek training to increase the intensity; and a third, in which he uses interval training to make the work even more intense.

A macrocycle also is determined by a change in intensity or volume of training. For example, switching from indoor work to outdoor work would mark a change in macrocycles. In very rough terms, macrocycles often last on the order of four to ten weeks.