13) Buds are minibrots

The combinatorial rules of the filaments 2

(To see the illustrations clearly, put the size to 125%)

In article 11 ”The location of the acupuncture points” of this chaotic series I’ve talked a little bit about were the acupuncture points of the Mandelbrot (M) set are situated. Knowing this we also know where the secondary decorations join at minibrots. In this article we will see that not only the molecules building up the filaments are minibrots, but also in fact every bud can be considered as a minibrot although the main component is not cardeoid-shaped. In fact the main component of a minibrot is cardeoid-shaped when a filament is attached to the rot-point (see below), and an ordinary bud when the rot-point is attached to another (bigger) hyperbolic component. With a ”hyperbolic component” is meant any bud or cardeoid-shaped component of the M set. Any parameter-value picked from inside of a hyperbolic component give rise to a connected Julia set to which belongs an attractive periodic cycle (which is the same as the filled-in Julia set contains one or more enclosed regions).

In figure 1 (”Adam”) certain acupuncture points are appointed with the letters A - F. ”F” denotes the rot-point.

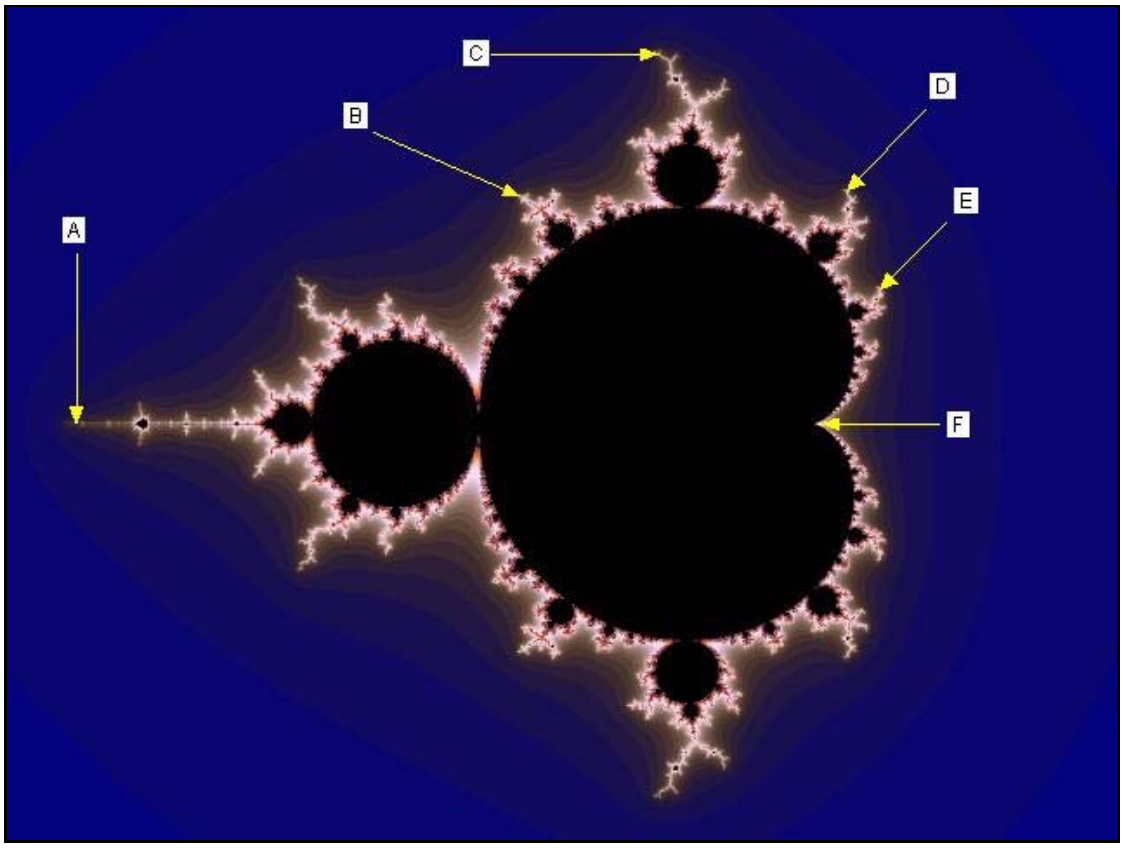

Fig 1. The entire Mandelbrot set.

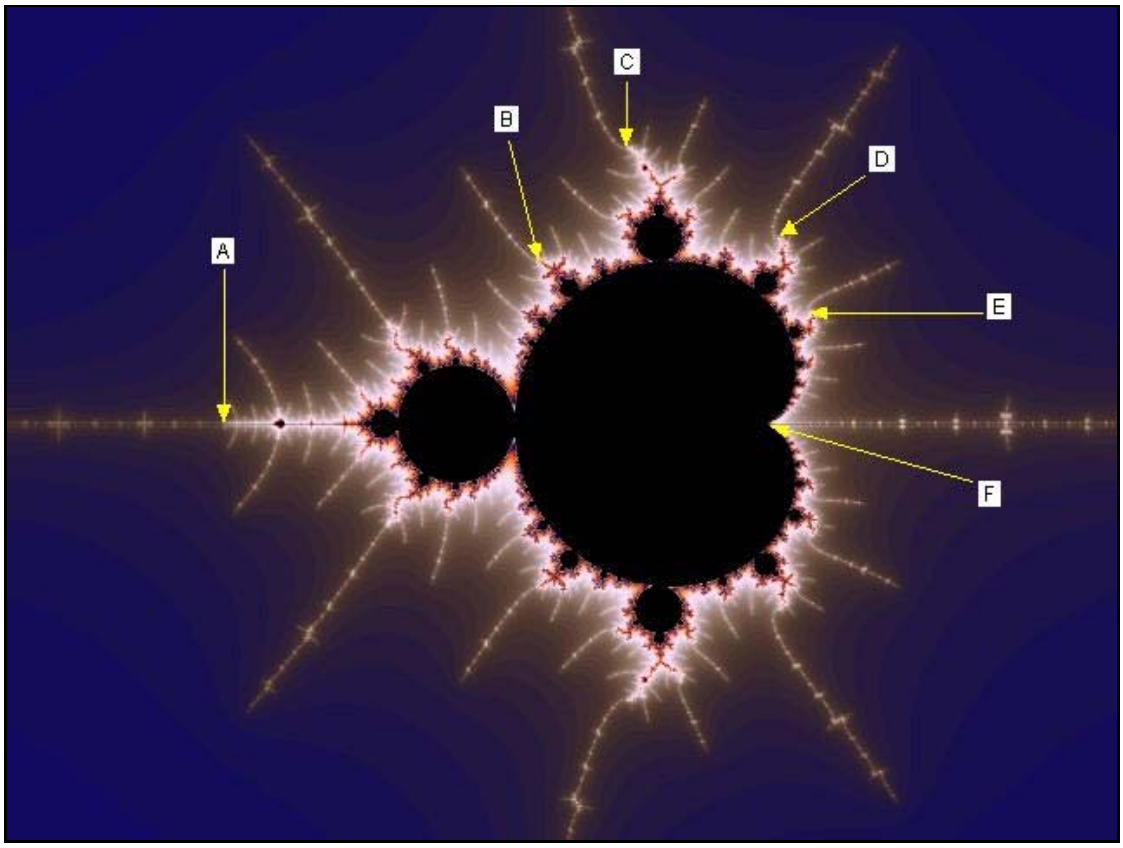

Fig 2. Spiky minibrot.

Figure 2 (”SpikyMandel”), the biggest minibrot on the spike, is shown for reference. The spots corresponding to the appointed points in ”Adam” are denoted. Figure 3 (”Head”) shows the head (the period-2 component) of the M set. Regarding the head as the body of a minibrot the following comments can be done: The spike of this minibrot ends somewhere in the interval appointed by the divided line ”A”. The rest of the spike of the entire M set can be regarded as a secondary decoration forming a ”2-star” somewhere in the appointed interval. The spots C, D, and E correspond to the Elephants trunks towards the Elephant Valley of the M set. Together with extra decorations, these spots become the centers of 2-armed spirals. Note that following the sub-buds towards the rot-point (F), the number of arms in the stars closer to the body (= head) are increasing by one for each successive bud. Please read again ”The combinatorial rules of the filaments 1”, article 10. The secondary decoration at the spot B, does not join in the end of a seahorse tail, but in the top of the ”extra head” (See article 11 ”The location of the acupuncture points”). Towards the Seahorse Valley of this "headbrot" the secondary decorations joining the ”extra heads” forms the famous scepters, giving rise to the name ”Scepter Valley” for this valley.

Note that with respect to ”budbrots”, the secondary decorations are as ”thick” as the branches they are attached to and are approximately reaping the patterns of the branches of the ”budbrot”. That's because the budbrots not are part of filaments, but attached to another hyperbolic component.

To the rest of the illustrations (not all spots A - F to each budbrot

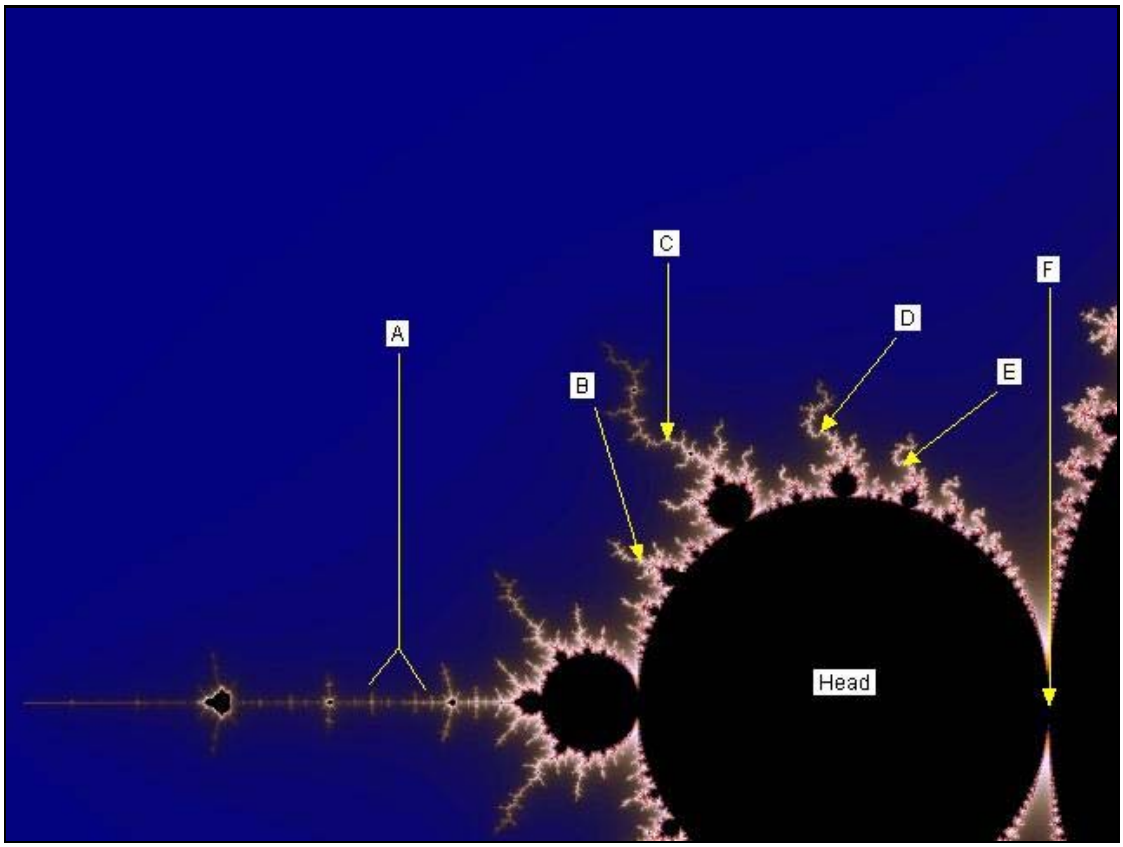

Fig 3. Head.

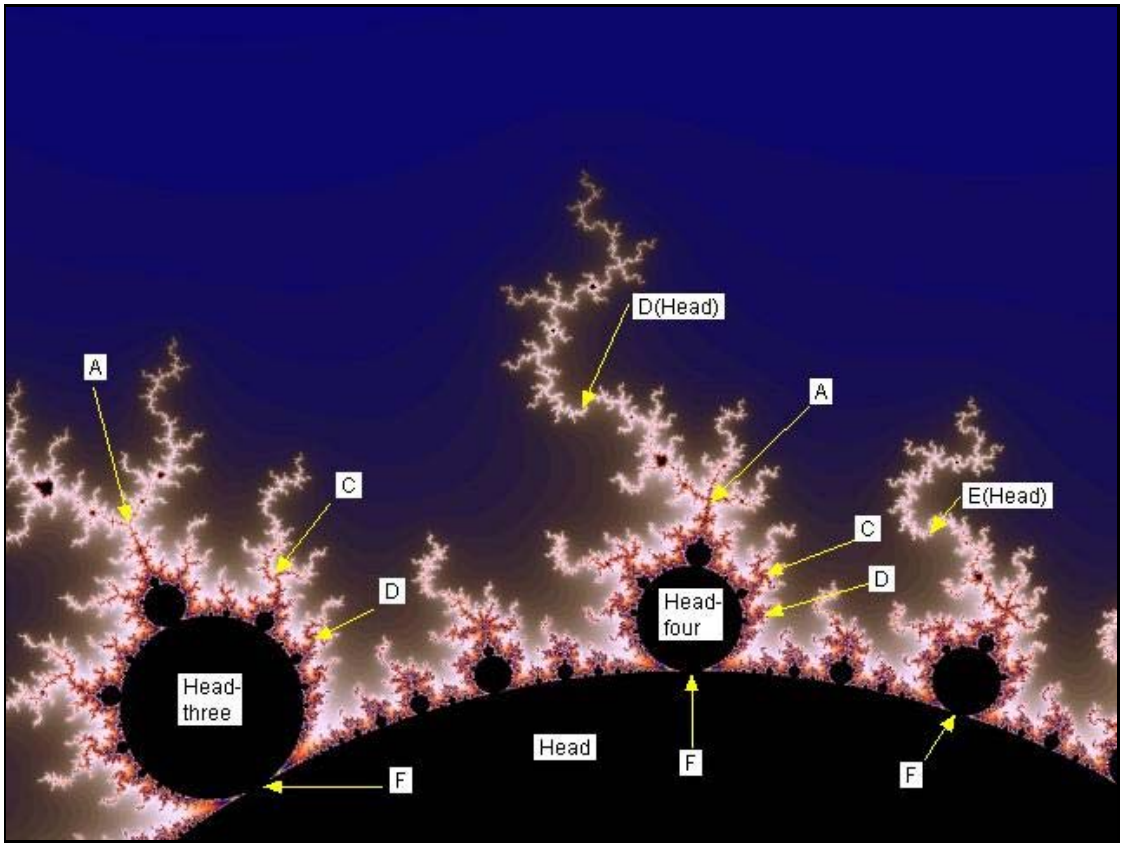

Fig 4. Top Head.

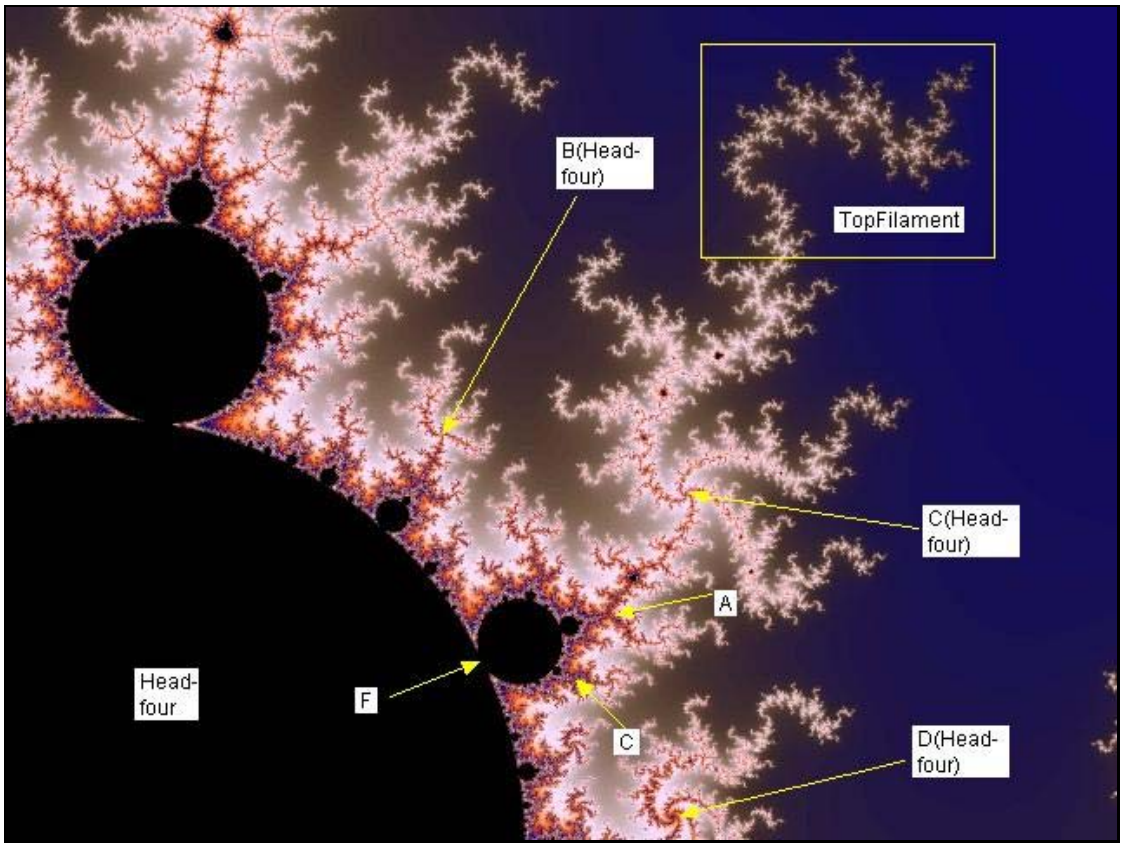

Fig 5. Filaments.

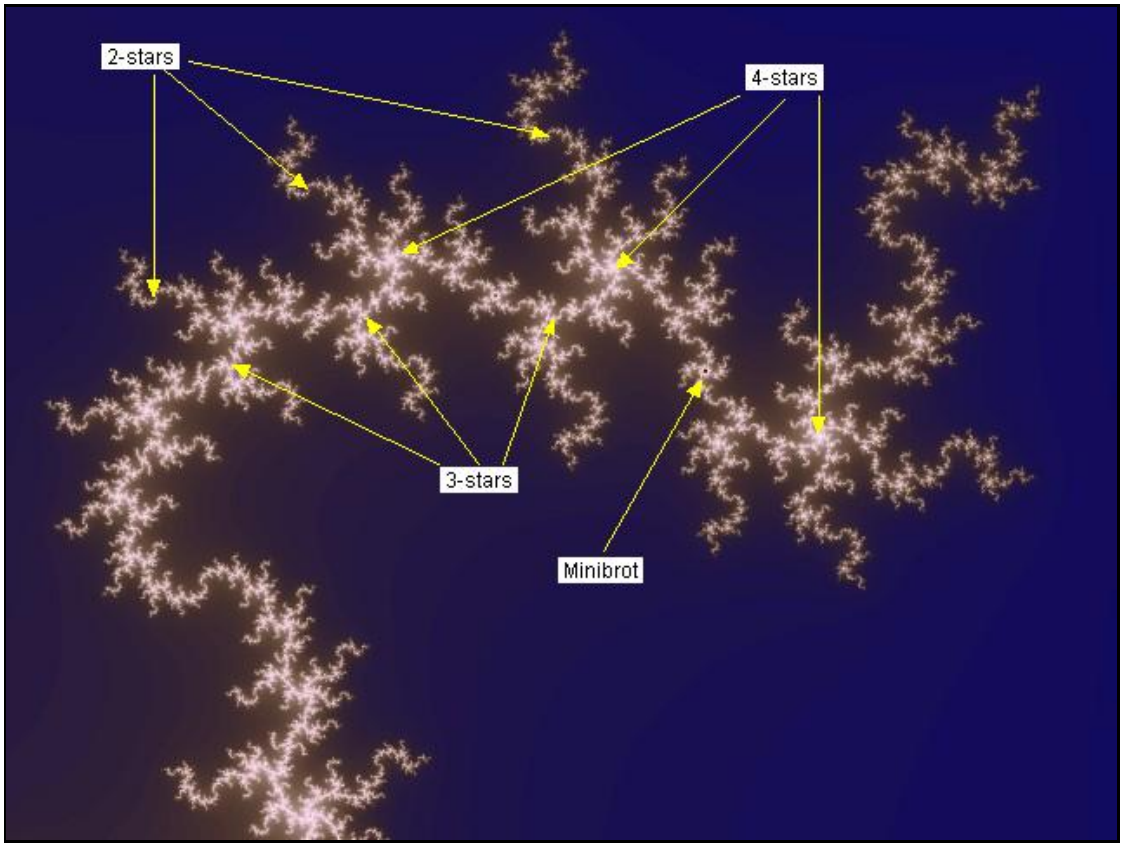

Fig 6. Top Filaments.

denoted) I leave to the diligent reader to fulfill this article in his/her mind as these illustrations speaks for themselves. After achieving the combinatorial rules of the filaments you are very welcome to join the Guessing Department.

Regards

Ingvar