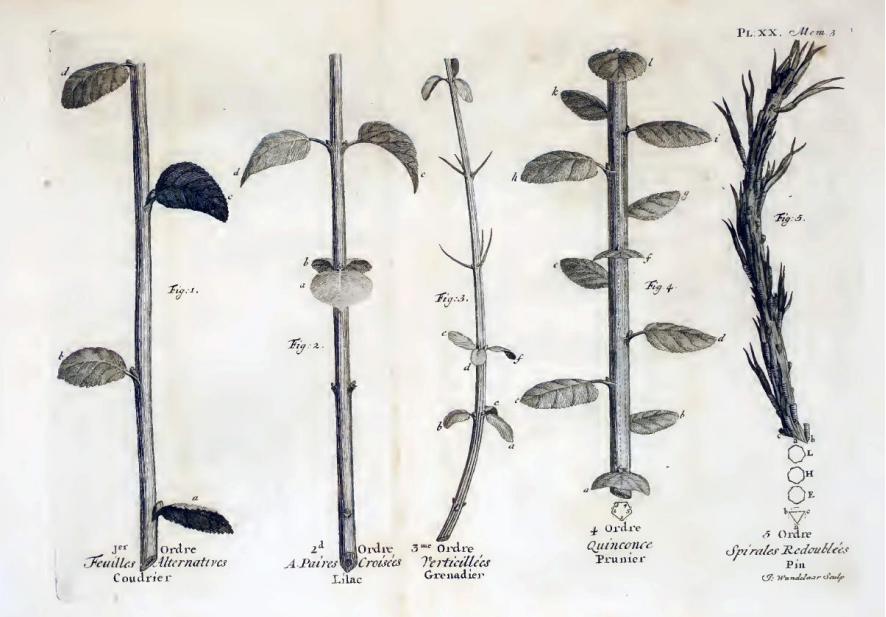
Fig. 8.1 Bonnet's 1754 taxonomy of plant form. Note that in each of the non-whorled patterns the divergence is considered to be rational [14].



The connection between these patterns and the Fibonacci sequence was first made in the 1830s by Schimper [90] and Braun [16, 17], who stayed with the idea of classifying spirals by rational angle and found these were commonly of the form 1/3, 2/5 or 3/8. It seems to have been Braun who first wrote of the appearance of large Fibonacci structure in the sunflower (Figure 8.2), and also noted Fibonacci structure in pine cones for the first time.

Fig. 8.2 Braun's 1835 report of large Fibonacci structure: 'With considerable work, more complex cases such as 55/144 or 89/233 can be found to occur in the sunflower' [16].

wäre, in complicirteren Fällen, z. B. bei $\frac{55}{144}$ oder $\frac{89}{233}$ St., welche beide bei der Sonnenblume vorkommen, keine kleine Arbeit wäre.