

between the requirements of Art. 83 EPC and those of Art. 54 EPC (especially in view of G. 1/92, OJ 1993, 277).

6.7. Trial and error

Even though a reasonable amount of trial and error is permissible when it comes to sufficiency of disclosure, e.g. in an unexplored field or where there are many technical difficulties, the skilled person has to have at his disposal, either in the specification or on the basis of common general knowledge, adequate information leading necessarily and directly towards success through the evaluation of initial failures (T. 226/85, OJ 1988, 336; following T. 14/83, OJ 1984, 105; T. 48/85, T. 307/86 and T. 326/04; see also T. 2220/14, highly complex technical field). Where the skilled person can only establish by trial and error whether or not his particular choice of numerous parameters will provide a satisfactory result, this amounts to an undue burden (T. 32/85; see also T. 2237/09, concerning a combination of parameters). Nor can sufficiency of disclosure be acknowledged, if, for an invention which goes against prevailing technical opinion, the patentee fails to give even a single reproducible example (T. 792/00. See also T. 397/02, T. 1440/07 and T. 623/08).

In case T. 2220/14, in the board's view, since the technical field to which the invention related was highly complex (methods of modifying eukaryotic cells), the average amount of effort necessary to put a written disclosure into practice in this field would be rather high and involve a considerable amount of trial and error. The board added that there is no requirement in the EPC, either at the priority or filing date, that the applicant must have carried out the claimed invention. The board concluded that it had no reason to doubt that the invention as claimed in claims 1, 5 and 6 was sufficiently disclosed as required by Art. 83 EPC.

Where the person skilled in the art has to find out by trial and error which, if any, compound meets the parameter set out in the claim, this constitutes an undue burden. The fact that this could be done by routine experimentation was not sufficient for the subject-matter claimed to meet the requirements of Art. 83 EPC. Nor did the question whether or not the parameter could be reliably determined play a role (T. 339/05). In T. 123/06 the board found that the **functional definition** of the device was no more than an invitation to perform a research programme, the skilled person only being able to establish through trial and error whether the claimed device was achieved. This amounted to an undue burden.

According to T. 1063/06 (OJ 2009, 516), a functional definition of a chemical compound (in this case in a **reach-through claim**) covered all compounds possessing the capability according to the claim. In the absence of any selection rule in the application in suit, the skilled person, without the possibility of having recourse to his common general knowledge, had to resort to trial-and-error experimentation on arbitrarily selected chemical compounds to establish whether they possessed the capability according to the claim; this represented for the skilled person an invitation to perform a **research programme** and thus an undue effort (following T. 435/91). See also T. 1140/06.