In this paper a case study on conceptual design in mechanical engineering design is presented. At first, an exemplary sketch from the design process is discussed with regard to the modality and level of abstraction of the elements used in this sketch. The possibility to predefine geometry of components, as well as functional features on different levels of abstraction provides clues for reinterpretation of the sketch. Furthermore a remarkable sequence of sketching is presented, that shows how reinterpretation of a sketch can result in significant changes of the conceptual solution. This may be due to the combination of geometrical and functional elements, that gain meaning within the overall context of the sketch only in combination with the other elements. Therefore recombination by reinterpretation may change this context entirely. The proposed mechanisms could not be verified due to the rareness of their occurrence, still these mechanisms may have a significant impact on a design process. Therefore this paper is supposed to provide hypotheses for further research on this subject.

Stichworte: conceptual design; sketching; creativity; sketch interpretation.
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