

1. Anxiety drives progress; this is what the never-ending discussion of "The End of Moore's Law" has proved to us. (Chapter 1)
2. The term "RFDAC" is comprised of two parts: "RF" and "DAC", exposing the key challenges in the design phase, namely: device parasitics and device matching. (Chapter2)
3. Digital pre-distortion (DPD) demands high computational power. Yet in most works, DPD is carried out using a PC, making any comparison of the TX-system efficiency achieved meaningless. (Chapter 3 and 5)
4. There is a Chinese proverb which states: a foot may prove short, while an inch may prove long. No single solution/technology can satisfy every application demand, so finding smart combinations will always be needed. (Chapter 6)
5. Although CMOS technology is logic-oriented, designers must have an analog mindset to understand its limitations.
6. In IC design, the schematic design is only 50% of the work, while the block layout is another 30%. The remaining 20% work involves top-level connection and chip-finishing, which are essential but always ignored by designers.
7. Placing a supply voltage higher than the nominal voltage may force a CMOS chip to perform better over a short period of time, but it will ensure that the aging process will be speeded up dramatically. This principle is also true regarding Ph.D. students and their stress at work.
8. The level of confidence authors have in their work can be evaluated by the literature listed in the comparison tables of their publications.
9. A perfect team should consist of optimistic managers, self-conscious designers, and most importantly, pessimistic technicians.
10. Rome wasn't built in a day. Nor will the semiconductor industry be!

*These propositions are regarded as opposable and defensible, and have been approved as such by the promotor Prof. dr. ing. L. C. N. de Vreede, and the co-promoter Dr. S. M. Alavi.*