

The Team Captain – Notes on a life of building

Walter Achermann



Filmstill from *Amarcord* (1973) by Federico Fellini

The following notes are a result from a request of CARTHA's editorial group to Walter Achermann of sharing his privileged view on the evolution of the construction industry and the role of the construction manager in it. He chose three projects; The first construction site where he acted as construction manager; a second one where the construction environment started to be affected by the introduction of new technologies; a third one that presents a huge contrast of scale to the previous two and is relatively recent.

Construction site nr. I

1978, Engelberg (Lucerne)

Construction duration: 15 months

Cost: 2.5 million CHF

2 Housing Buildings, Vacation appartments, 2 x 12 APP

10 companies involved, around 60 workers in total

Working processes and tools:

– The *Bauleiter* (construction manager) took over the whole construction process, starting from where the Architect had left, the concept phase. The *Bauleiter* did the detail plans, the description of the materialisation and construction techniques to be used, dealt with the local officials, the few specialists and the client.

– At this time there were no computer or copy machine helping at work. Every correspondence was written on typewriter with carbon copy. To produce

copies of submission papers a transfer matrix had to be made (“Umdruck”). Plans were drawn by hand on transparent paper with ink by a “Rapidograph” (instrument of drawing).

– Precision and detailing in the “Ausschreibung” (submission) phase was quite reduced when compared to today's. This had two direct consequences; it was much faster and simpler to do but it required a more “hands-on” approach to the construction site management. This was only possible because when one would write, for example, “brick walls and concrete ceilings“, the construction worker and the contractor knew exactly what it meant and what was expected by the architect. Construction techniques were somehow less variable and the construction workers had a better understanding of the relation between different materials and building techniques. One can say that the workers were more qualified than now.

– This quality and know-how from the workers allowed the construction site manager to be more relaxed, to trust the contractors and workers when it came to competence during the building process.

– The only specialist needed for this project was the structural engineer. All the other aspects (electricity, sanitation, heating, so on...) were handled by the contractors, from the planning until the construction phase. There was a lack of specialisation, the skill sets needed to bring the planning and construction proces-

ses to its successful completion were held by generalist contractors and planners that handled the relatively simple act of building. The *Bauleiter* was also responsible for the coordination and correctly handled execution of these special technical crafts.

Construction site nr. II

1989-1992, Hergiswil (Lucerne)

Project duration: 2.5 years

Cost: 9 million CHF

8 Single family houses, Lakeside Villas

25 companies involved, around 150 workers in total

Working processes and tools:

– The developments known in building technologies during the 80's and 90's, as a consequence of the oil crisis and increasing ecological and economical concerns, led to the multiplication of consultants and specialists. New categories and sub-categories within the previous disciplines were born: Termic and energetic consultants had now an input when it came to heating and insulation techniques, a geologist had to be called in to deal with the risk of landslide into the lake, etc.

– Also in the planning phase, the *Bauleiter* had the representation of his inputs, detail plans, being drawn by draughtsman. This had consequences; the further interpretation of the desired materials and techniques by another person.

– Beginning of the use of computer as a tool for the submission phase. Material and construction techniques were now described using a computer program and a standard method (BKP and NPK from CRB). With this “help”, the submission documents could be more detailed. To a lot of contractors this was a new process and they did not understand the standardized descriptions what meant more work (explanations) to the *Bauleiter*.

– A system of coordination drawing known as “Tochterpause” was used to implement the knowledge and needs of each specialist into the project. The *Bauleiter* would draw the construction plans based on the architect's plans, on a piece of paper. This piece of paper would then be sent to the sanitation planer that would draw directly on it. He would then send these plans

to the heating planer, and so on, until all the consultants had drawn their contribution on the original construction plan. This would take around two months. It allowed for the prevention of planning mistakes as the planners knew where they could draw in first hand, it was clear on the plan they had in front of them. A meeting would then be held at the end of this process where all the specialists would meet and discuss minor details that had to be solved on the plans. A final coordination plan would then be drawn and the construction could start with a certain certainty that the layering of the consultants inputs would work correctly.

– Local authorities had only a rudimental control over the project. The submission plans would have to be approved and there was a zoning plan for the area but the presence of local authorities on the construction site was close to none. The single control was at the end of the construction process, before the owners would move in.

Construction site nr. III

2006-2009, Basel (Basel City)

Project duration: Planning 2.5, Construction 2.5 years

Cost: 98 million CHF

1 Building in the Novartis Campus St. Johann (Office and Laboratories)

10 consultants and specialists involved

32 companies involved, around 1150 workers took part in the construction phase

The main architect was David Chipperfield, Burckhardt+Partner acted as local architect and construction manager.

The architect was in charge of the plans, including detail plans.

Local architect was in charge of the submission, budget calculation and served as specialist / consultant for local laws and construction processes, accompanying the project since the planning phase.

Working processes and tools:

– This project took advantage of all the technologies that nowadays offer. The computer was used for both drawings and text/documents production.

– An ever growing wish for optimization and

costs-reduction on the construction site had been gradually changing the methods and techniques. More and more, the construction elements and materials are pre-fabricated and processed in order to reduce the assembly and montage time on the construction site.

- Very high demands on safety and security meant a lot of additional work to the *Bauleiter* who had to control and adjust what was not according to the regulations of the law and of the client.

- The amount of involved companies, in coincidence with the tight time schedule, meant the additional task of managing weekly coordination meetings of the local architect – led by the *Bauleiter* – with the consultants, specialists and actually working companies. At the end of the project, over 130 protocols of this construction meetings had been written down.

- Following to increased regulations by the authorities, the *Bauleiter* needs much more time for the approvals of every single craft, especially technical equipement.

There is one aspect that did not change during this time and throughout these projects: The *Bauleiter* is the overall responsible for costs, time schedule and correctly executed construction.

Walter Achermann was born in 1953 in Lucerne. After four years of high school, he started and finished an apprenticeship as draftsman. He went on to get a diploma in theology and then studied Adult Education for three more years. Since then, Walter Achermann has worked both as self-employed and employee in the construction area, having built projects that range from single family houses to multi-million public and private equipments.