Wonderful adventures in a millionaire’s dream

The main building of TU Delft

An abandoned monument to wastefulness. An accidental storage dump. A hiding-place for uranium and resistance fighters. A bunker for an indifferent executive board. And now, TU Delft’s main building will become a luxury apartment complex for premium living.

From an empty shell to a national monument: the history of ‘Red Chemistry’, a building that has had the most wonderful adventures.

Afke van der Toolen

National monument since 2002

“The university building ‘Red Chemistry’, which later became the main building of TU Delft, on Julianalaan 132-134, was designed by architect Van Drecht from 1918-1923 and is of a great cultural and architectural-historic value:

- because of the function that it fulfills; namely, as a university faculty building for Chemistry and as the main building of the university, and because of the place it occupies in the history of Delft University of Technology;
- because of its architectural style and the place it occupies in Van Drecht’s oeuvre, and because of its characteristic shape, the use of materials and detailing, and because of its flawlessness.

It has monumental value because of its visually defining location on the De Vries van Heystplantsoen, its central location on the TU campus and the spatial function and visual relationship it has with the surrounding TU buildings.

The building has singular value as one of the country’s largest pre-war university buildings.”

Source: National Service for Archaeology, Cultural Landscape and Built Heritage (RACM).
It all seemed so simple around 1915, when the Chemical Technology department was searching for new accommodation. In the old chemistry building on the Westvest, the test tubes rattled in their holders with every footstep, and the building was not only a fire trap but also much too small for the growing numbers of students. So what would be more desirable than a brand new building in the nearby polder? The administrators of the then TH-Polytechnic had already been dreaming of building their own campus on that site.

The government minister responsible for education spluttered his dissent. Couldn’t these people just as easily move into an existing building? Nevertheless, the necessary polder land was purchased in 1917. Architect G. van Drecht, of the Dutch Government Building Department, then proceeded to sit down at his drawing table and design a mastodon of a building: Nine wings, a surface area of 30,000 square meters, built in a traditional style with influences of the ‘Amsterdam School’ of architecture.

The First World War provided the first stumbling block, however. It was impossible to import piles and Queen Wilhelmina did not feel obliged to donate any of the trees on her t’Loo estate. But fortunately trees from Brabant came to the rescue: the building work commenced.

“The music of the hammer, saw and trowel, which in the years following the first pile being driven in had sounded so lovely, was raised to heights of a pianissimo around 1921, before descending into dead silence in 1923”, was how an article in the Delftsche Courant newspaper dubbed it. While elsewhere efforts were being made to develop an atomic bomb, the Delft yellowcake remained unused in the basement.

Yellowcake

Red Chemistry. The building got its name from its characteristic red bricks, and for the science department that was originally meant to move into it. In the sad, intervening decades of the building remaining unfinished, you could still see the traces of its intended use for chemistry. There was the tower, more than 40 meters high, which was meant to serve as a reserve water tank for any fiery experiments gone wrong, and which immediately lent this broad, cumbersome building an upward-thrusting appearance. There were the remarkable decorative bulges in the outer walls, which served to camouflage the acid storage tanks. There was the height of the stories – some six meters high. This was not only to reflect status, as the newspapers supposed, but also to satisfy the design requirements for laboratories. Nevertheless, as bitter fate would have it, the Chemistry Technology department would never move into the building. The 1930s dawned, and in the depths of the Depression, there really were no funds available now. This prestigious but aborted structure descended into some kind of storage dump for passersby. The Dutch Governmental Fiber Department dumped 5,000 kilos of flax straw there. The Justice Department stored its excess furniture there. And the student union rehearsed for an anniversary celebration inside. There was certainly room enough for all this. But it was the two hundred wooden crates of ‘yellowcake’, or U3O8, or uranium oxide, stored in the basement in the Summer of ’39, that actually had the most to do with chemistry. Would Red Chemistry ever see better days? Nazism seemed to be more interested in the building than the government of the Netherlands, judging by the fact that the famous LZ129 ‘Hindenburg’ zeppelin flew over it. On a test flight that just so happened to fly over a few Dutch military airstrips and an army barracks, the zeppelin also flew over the red building on the edge of the green polder. Perhaps this was in the mistaken belief that there was a bomb factory inside. Whatever the case may have been, the zeppelin, equipped with spy cameras, certainly wasn’t searching for flax straw.

Yet the Germans apparently had no idea about the yellowcake stored inside. This raw atomic fuel had been imported from the Belgian Congo by University of Leiden physicist W.J. de Haas, with the approval of Dutch Premier Colijn. Atomic fission had recently been discovered and De Haas wanted to study the process – also for possible military use. But the outbreak of the Second World War prevented this. While elsewhere great efforts were being made to develop an atomic bomb, the Delft yellowcake remained unused in Red Chemistry’s basement.

The German occupying forces used Red Chemistry as a storehouse for artillery shells; meanwhile, funnily enough, there was a potential atom bomb under their feet the whole time. But there were also other things the Germans didn’t know about. People were hiding in one of the building’s closed wings, and while the exact details of this are unknown, one thing is certain: Red Chemistry, which for so long had been the laughingstock of Delft, could...
Red Chemistry: a monument of wastefulness

"...Indeed, the tax payer would certainly be surprised if he knew the truth about this abandoned monument to wastefulness... An agreement of 6 million guilders was reached for the construction of the building – the final amount has not been made public, but it is easily from 8 to 10 million guilders. The chimney stack cost more than a royal villa, the tower is built of the most expensive, handcrafted stone that exists, and there are expensive carvings at the top of the building, which can be seen with a spy-glass. [...] The exterior is sumptuous and enormous in size. The interior remains unfinished. The building work was halted halfway and the prohibitively expensive completed work has been wind- and water-proofed - yet one can still see in this half-built structure that everything was built regardless of expense. There are for example attics in this building that bear no relation to any previous comprehension of what an attic is. There are halls without rafters or tiles, halls with cement floors and splendidly smooth walls, seemingly endless halls, larger than exist in any city in our country. There are staircases in this building of ingenious design, which descend into magnificient, stately hallways. In the awe-inspiring lecture halls, amphitheater-like seating has been built in the most expensive way imaginable. If the building work will be continued in the same manner as it has been built until now, then the final costs shall not be much less than 20 million guilders."

From: Delftsche Courant, 23 June 1926.

finally associate itself with something positive: it had provided assistance to the Dutch resistance.

Yellow Chemistry

This marked the start of better times to come. Soon after Liberation Day, the rebuilding efforts also began for this barren, cavernous building on the Julianalaan. The Chemistry Technology department, for which the building was originally intended, did not move in however. That department had been given a more modest home nearby, but this time built with yellow bricks: 'Yellow Chemistry'. Meanwhile, Red Chemistry temporarily reverted to its traditional function as a repository, before finally acquiring a scientific purpose. Aircraft Engineering and Applied Physics – with TNO as a welcome outsider – were temporarily housed under the roof. In 1955, real life finally began. The building acquired a new purpose, and one that it could rely on. Red Chemistry became the Main Building. The right wing served as the offices of the TH-Polytechnic's Executive Board, while the left wing was designated for general sciences. Those who now walked through the building could observe the traces of the reconstruction works required for this. The attic was converted to office space, with suspended ceilings and a series of windows above the roof's ridge-beam. The six-meter high stories below had intermediate floors built in-between. When one looks closely at the building's exterior, it's possible to see where the intermediary floors are located: at the points where the high windows are interrupted by blank surfaces. Until this very day, the people whose offices are on these intermediate floors must go downstairs to lower or raise their window awnings.

Red Chemistry served as the main building of TU Delft for more than fifty years. Over the years the building lost some of its association with its red brick building material: rather, it came to stand for the executive board housed inside. 'The main building has decided such and such...' In the turbulent, socialist-red years of the 1970s, students began to regard the decisions taken inside with less and less respect. Red Chemistry – what's in a name – experienced this itself. On December 12, 1972, a couple hundred students - with sleeping bags under their arms and toothbrushes in their pockets - assembled in the courtyard of Delft's 'Maagdenhuis' for what would become the first building occupation. The students were led by the heavy chain carrying figure of 'Chain Willem' van Bodegom, whose job it was to ensure all the necessary doors and connecting doors were locked shut. The occupation was well organized and orderly, even if at first the then Rector Magnificus Van Nauta Lemke couldn't believe he actually had to leave the building and the chairman of the Executive Board Vermeyden expressed some dismay about the fate of the secretaries inside. Subsequent reports that some of these women were 'taken' on the desks by these wild, longhaired occupiers, proved to be false. For four days the TH-Polytechnic's Executive Board wing was in the hands of the occupiers. But they had it easy: the soft, thick carpets of the Executive Board offices were perfect for sleeping. For the establishment figures, however, this action was totally perplexing. "We are the father and mother of TH-Polytechnic!", Mrs. Van Nauta Lemke had cried. This first occupation was a resounding success. The occupiers' demands were met and many of the presiding Executive Board members resigned.

Nazi Germany seemed to be more interested in the building than the government of the Netherlands

Lecture hall seats

There is of course much more to tell about the years that Red Chemistry served as the main building. About the seats in the lecture halls: 'The lecture is already over before you find a comfortable sitting position.' Or about Ragga, the singing cleaner, who in the evenings performed at Amsterdam's Paradiso nightclub, and in the mornings mopped the building's floors. Or about the squatters' misguided attempt – not so long ago – to squat part of the building: "We want to alert the university's Executive Board to the fact that there is a severe housing shortage."

But there isn't sufficient space here to tell all the tales, and the reality is that the life has already flowed out of Red Chemistry. Entire floors are now empty, just as they once were in the distant past. Movers now walk...
comprehension of what an attic is.

to and fro pushing carts full of old computers and file-cabinets. Two huge, ever-fuller dumpsters now block the side entrance.

Up above in the water tower – which because of its dilapidated state is no longer accessible – the patchwork-like roofs of the TU’s other buildings unfurl before the eyes of those who look southward. Once again, a new era is born, which in fact is a repeat of an idea first hatched nearly a century before: a neatly arranged, compact TU campus. It should have existed in those days, built around Red Chemistry, but the building was stranded by the capricious line, a new endeavor beckons. And thus yet another wonderful new adventure begins for Red Chemistry: life as ‘Villa Academia’, a luxury apartment complex that, according to the sales brochure, will offer ‘many residential benefits to a broad target group, treating them to the joys of premium residency for years to come’. This will be another entirely new phase of life for Red Chemistry. But then again, it has already experienced so much.

With thanks to: Joep Aalders, facility manager Main Building; and Auke Wouda, TU alumnus/former VSSD board member.

Sources:
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A Chinese ICT company plans to introduce a new cell phone onto the market that performs better than the phones currently available to us on the Western market. The message: emerging economies are no longer competing solely based on price. The young people in those countries are becoming increasingly better educated. Their universities are full of passionate students, driven by the ambition to be among the very best. And what is our response here?

In the past, commercial economic activities were based on the traditional manufacturing of goods by means of two production factors: capital and labor. Industrialization and globalization have substantially increased competition. Companies are now forced to produce better products at lower costs. This has given rise to the knowledge economy, in which precise instruments and smart manufacturing equipment have enormously expanded the possibilities available to companies. Formal knowledge has become, in addition to capital and labor, the third production factor. Higher priority is given to training personnel. In the past decade, integrated knowledge and high value craftsmanship has made strong growth in productivity possible.

We are now witnessing a new development, which is possibly the most essential one for the future of the Western world. The truly great changes are now occurring in the innovation-economy – in addition to capital, labor and knowledge – creativity is now the fourth production factor. Placing the emphasis on creativity makes a difference. In short, we can say that in a knowledge economy, logic and reason play a dominant role, while in the innovation-economy everything depends on creativity and imagination. Innovation is not only about being more efficient (using knowledge-rich solutions), but rather is primarily about greater effectiveness (using creative solutions).

We can best describe the activities undertaken in an innovation-economy as ‘creative enterprises bolstered by knowledge’. It is not only an issue of creativity or entrepreneurship or knowledge: it’s the combination of these that counts. For universities that aspire to be among the best, it is vitally important to capitalize on the above-mentioned developments. The best universities will increasingly function as an integral part of a worldwide open innovation system. The best universities do not only supply the scientific knowledge that reveals how things work; they also devise the creative concepts needed to solve the major social problems.

The best universities are therefore above all innovative universities. They have creative researchers in their midst who are able to remain independent of existing solution methods and are capable of blazing new trails. These are not researchers who allow themselves to be used to merely polish existing solutions. And they are not researchers who are simply willing to report what their employers find agreeable. The ultimate value of a researcher is after all determined by his independence.

Innovative universities possess an organizational structure that gives creative people the space they need to embark on new endeavors. Managers who institute a profusion of (conduct) regulations and (evaluation) procedures create a working environment in which it is exceedingly difficult to blaze new trails. We must therefore never give in to external pressures from contractors that result in compulsory activities. Punching a time-clock has no place in a university. Only the results must matter. One of the most important qualities of a university management team is the extent to which it protects its researchers from bureaucratic red tape. The violent, relentless competition from emerging economies demands another approach. This approach isn’t merely to improve the implementation of existing things. With that approach we will surely lose the battle. The answer is found in greater ambition, creative instructors and less-regulated organizations. Studying and working at a university must be an exciting trip of discovery, full of surprises. This produces the best results. This will only transpire if we break down faculty walls, raise morale and reward creativity. Why aren’t we doing this?

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