

Win Labuda

Researcher, Entrepreneur, Artist – A Biography (2008)

Win Labuda (1) (Winfried Gerhard Labuda) was born in Danzig/Gdansk in 1938. Between 1945 and 1952 he spent his childhood years in Stralsund. Due to the early death of his parents he lived in the St. Mauritius Orphanage in Cologne until reaching legal age; by his own account, it was a good home. His wish was to become a painter and a sculptor; however, this was out of the question under the circumstances. Accordingly, he completed a precision mechanics apprenticeship at Siemens & Halske from 1954 to 1957. After that, he worked at the English electrical corporation AEI-Associated Electrical Industries as a business trainee for several years. After a year of working in marketing and sales for Neye-Enatechnik GmbH in Quickborn, in 1964 Labuda founded *Labuda, elektronische Bauelemente GmbH* in a makeshift renovated goat stable in Solingen's Bismarckstrasse. The company first specialised in the import and sales of high-frequency electron tubes and later became the general agency in Germany for the British Edison-Swan radio tubes of the Thorn Group of London. The acquisition of further representations followed, such as for National Semiconductors, Piher Badalona and Morganite Resistors. As the demand for radio tubes stagnated due to transistorisation, Labuda sold the company to the Thorn Group in 1971 and founded *Labuda Elektromechanik GmbH* in Seehausen on the shore of Lake Staffel. The new enterprise primarily dealt with the import and sales of precision electromechanical components, in particular Duncan precision potentiometers, Morganite Trimming potentiometers as well as Airpax switches.

In 1973, Labuda travelled to the U.S. and visited Edward and Florence Paley, the owners and founders of Texwipe Inc. in New Jersey. At that time, Texwipe was a small business for the manufacture of specialised cleaning wipers and cleaning accessories for high tech industries. Edward Paley's (6) vision was that the structures of electronic products would become increasingly smaller while pollutants such as dust and pollen would of course retain their original size. This difference, so he thought, would lead to the formation of entirely new industries, the manufacture of specialised cleaning wipers being only one of them. Labuda immediately understood the immense opportunity resulting from Paley's insight, especially since no cleanrooms existed in Germany at that time. He became Texwipe's representative in Germany and remained in that position until he founded *Clear & Clean GmbH* with an own production line in Lübeck in 1979. The dialogue with Edward Paley had provided Labuda with an entirely new perspective. He subsequently expanded it and still feels indebted to Mr. Paley today.

At the beginning of the 1980s, the physics of wiper-based cleaning processes was completely unexplored. In addition, "wiping cloths" had a



1 - Win Labuda in June 2008
(70 years old)



(2)



(3)



(4)

2 - As an electronics importer with Michael Carpenter in Paris, 1964

3 - Win Labuda at the Ultraphot III Photo Microscope in 1983

4 - Performing cleaning tests with colleagues at the Infineon plant in Regensburg, 1995

5 - The Clear & Clean plant for cleanroom technology, located on a 3,2 acre site in Lübeck



low product image at that time, an image which needed improvement. Labuda recognised the opportunity to be one of the first to systematically research the wiping/cleaning process. To make the planned research affordable, he decided to invest his capital to set up a laboratory.

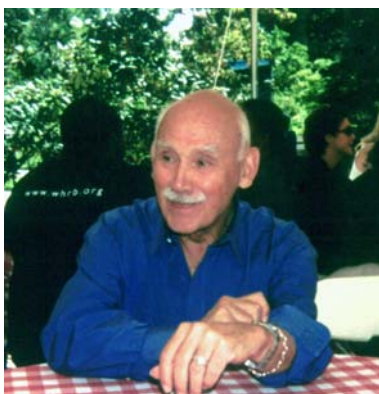
In 1986, Labuda's life entered a new phase. With the start of research activities into wiping mediums, the need arose to document the knowledge gained and to make it available to the public by means of technical research papers. Labuda met this challenge and began to publish his findings in papers, first with the *VDI Verlag* and later in the periodical *Reinraum Technik*, published by the *Wiley GIT Verlag*. From 1985 to 2007, 30 papers dealing with various aspects of cleaning technology were written in the Clear & Clean Research Laboratory; most of these papers were authored by Labuda himself (see pages 7-9). Many of them are available on the Internet both in English and in German.

In the same year (1986) the Siemens Corporation decided to exclusively use disposable cleanroom materials by Clear & Clean for its new semiconductor factory in Regensburg. Thus, the long-term financing of Clear & Clean's research was secured. During this period the VDI, the Association of German Engineers, founded a guidelines committee, which aimed to develop recommended practice guidelines for cleanroom technology. Labuda was invited to collaborate on this project and did so until 1996.

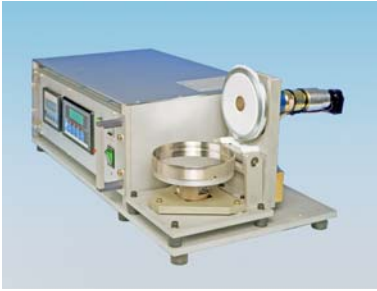
More and more German customers convinced themselves of the quality and usability of Clear & Clean's products; as time went by, Robert Bosch, IBM Sindelfingen, Infineon, Leitz, Micronas, Texas Instruments, X-FAB and Zeiss could be won as faithful customers in addition to Siemens. In 1990, Labuda bought the 3,2 acre factory premises located on Niels-Bohr-Ring in Lübeck (5). He systematically increased the production capacity at this site; today, more than one million cleaning wipers can be produced there on a 3 shift basis.

Until this day, there is no German industry norm (*DIN*) for precision cleaning wipers, nor are there any generally acknowledged testing methods. Therefore, Labuda first had to go about the laborious task of developing methods and devices for testing cleaning wipers in order to reproducibly measure and document their quality and usability.

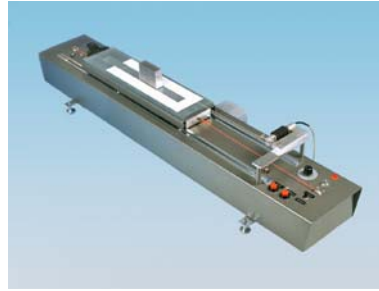
To this end, he has not only published four testing methods but also developed the appropriate equipment. In the development of the



6 - Edward Paley, founder of Texwipe Inc.



(7)



(8)



(9)



(10)

7 - The Labuda Rotation Wiping Simulator Mark II

8 - The Labuda Linear Wiping Simulator Mark I

9 - The Labuda Linear Wiping Simulator Mark II

10 - The Labuda Rotation Wiping Simulator Mark III

equipment, he was regularly and generously advised by his friend Klaus Schöttle, an engineer from Swabia with long experience in the construction design of specialised machinery.

Win Labuda's Test Methods

1st method: **Labuda Particle Abrasion**

Device: Labuda Rotation Wiping Simulator Mark I or Mark II (7)

2nd method: **Labuda Cleaning Efficiency**

Device: Labuda Linear Wiping Simulator Mark I (8)

3rd method: **Labuda Dynamic Fluid Absorption**

Device: Labuda Linear Wiping Simulator Mark II (9)

4th method: **Labuda Cleaning Time**

Device: Labuda Rotation Wiping Simulator Mark III - Timeport (10)

For his work on the test methods and the theoretical understanding of the physics of cleaning by wiping, Labuda searched for suitable discussion partners in the field of textile engineering. He found as such partners Professor Eckhard Schollmeyer (11) and his assistants, Dr. Thomas Bahners and Dr. Torsten Textor at DTNW, the North-West German Textile Research Center in Krefeld. In addition, Dr. Peter Ehrler at the Institute for Textile and Production Technology in Denkendorf consistently gave impulses for the accomplishment of this task.

Win Labuda can look back on varied lecture activities. He was invited twice to lecture at DTNW in Krefeld and in Elmau, Bavaria. He also held lectures at the ETH in Zurich and at conferences in The Hague, Lübeck, Stuttgart, Munich, Fulda, Basel and Bielefeld. Together with Professor Eckhard Schollmeyer, he collaborated on a lecture during the Techtexile Conference in Dusseldorf in 1995. Also, he held many talks during industry training events of the large users of precision cleaning wipers. Together with Yuko, his wife, Labuda organised the German-speaking LRTS



11 - With Professor Eckhard Schollmeyer (on the right) in 1994



12 - The second LRTS conference - Lübeck Clean Technology Symposium 2002



13 - Formatting and stacking station with automated wiper stacking and laser formatting

conference (Lübeck Clean Technology Symposium) (12) in 2000 and 2002. The couple invited the most respected experts in Germany to this event and financed the entire conference with their private funds.

Approximately at the turn of the millennium, Win Labuda had the idea of building a fully automated production line for precision cleaning wipers made of polyester knitware. He visualised a facility in which all process steps for the production of these wipers would be completely automated. A roll of polyester material would simply be fed into the start of the production line and at its end, accurately stacked nonwoven wipers – decontaminated several times and formatted by a laser– would exit. The construction of this facility however, proved to be difficult.

From the conception of the idea until the first start-up, the concept of the automated washing and rinsing operation was repeatedly altered by Labuda's staff. Seven years passed, so that the costs for planning and construction increased significantly. Nevertheless, in 2007 Labuda could proudly present the facility (13) to an American competitor. He did not even have to fear quick reverse engineering because the required and detailed know-how is so that short-term copying was out of the question. Subsequently Labuda received the invitation to temporarily work as a consultant in the United States in order to plan similar, highly efficient production lines for wipers in cleanroom technology. However, he already had other plans for the future.

After reaching age 65, he transferred the general management of *Clear & Clean - Werk für Reintechnik GmbH* to his wife Yuko, who is still responsible for the operational part of the company until this day.

For the Labudas, the year 2005 was characterised by a new wind blowing. The Infineon Group, which had been the largest customer of Clear & Clean products thus far, had hired a new Vice-President of Purchasing. He disempowered the technicians responsible for the product selection of production consumables. The Contamination-control engineers, who had until then spoken in favour of Labuda's technology at Infineon, turned out to be too weak to counter the new purchasing concept with one of their own. Not even a discussion of these issues was considered desirable. Win Labuda had always advocated product assessment based on process costs; now it was solely the purchasing price which dictated the decision-making. The efficiency of the various cleaning products was not even considered. The Labudas suspected that a "Lopez" phenomenon was about to be repeated; it had previously caused existential problems for many suppliers of the Volkswagen corporation. The Labudas chose not to compete under these circumstances and left it up to Infineon to end business relations.

This episode was one of the great disappointments of Labuda's life. After having spent half of his life researching and specifying the quality and usability parameters of cleanroom consumables, he was forced to stand by and watch how this accumulated know-how was disregarded and not even discussed by his colleagues in the industry when it came to the crux. In hindsight, however, the new procurement strategy did not lead to any improvement of Infineon's situation. On the contrary, the losses increased to unexpected dimensions. Recently, Infineon's CEO (Dr. Wolfgang Ziebart) resigned at short-notice.

In 2007, one year before his 70th birthday, Labuda collaborated with Sven Siegmann, his assistant of many years, to revise the spectrum of test methods for precision cleaning wipers. In a way, it was a conclusion of his life's work in technology.

For this purpose, it became necessary to add a fourth method to the three existing Labuda test methods. This fourth method is meant to shed light on the necessary cleaning time of a wiping cleaning procedure, dependent on the construction of the wiper. This revision was then published as *Clear & Clean - Test Methods for Cleaning Wipers and Papers Used in Cleanrooms* (23).

A World of Images - The Other Side of Labuda

An entirely different aspect of Labuda which, however, plays a dominant role in his biography is his creative work as a photographer, graphic artist and at times also as a sculptor. Being the son of the passionate animal painter Gerhard Labuda (14), he came into contact with visual arts early on and was given lessons in free hand drawing by his father. However, he was more interested in photography. Until 1971, Win Labuda took some intriguing photographs during trips to Poland, North Africa, Italy and Spain; however, it seems he did not deem them to be interesting enough to be published.

But starting in 1968, he showed an increased interest in photography. This became apparent when he joined the *Royal Photographic Society* in London, acquired a used Linhof large format camera and set up a darkroom in an old bakery on Solingen's Wupperstrasse. Starting in 1971, when he moved to Murnau on Lake Staffel, Labuda began to produce photo screenprints (17) based on his own black-and-white negatives. He established a screenprint workshop on Seewaldweg in Seehausen solely for this purpose. For twenty-five years, he gave his friends one of his prints as an annual gift. By now, he was taking photographs in India, Japan and the United States.

In 1978, Labuda chose the town of Bad Schwartau near Lübeck as his new domicile. He bought a large piece of property on Hindenburgstrasse which would not only provide living space but also a generously proportioned artist's studio. As pointed out above, he had acquired a Zeiss Microscope, model Ultraphot 3 (3) for business purposes; now he often worked as a scientific photographer in the fields of textile technology and surface cleanness. From his base in Lübeck, he made several trips to Ireland, Israel and Venice during which he photographed mainly people and landscapes, but also cities.

In 1983, he began photographing his series *Images and Signs* in Paris. In 1990, Win Labuda got married for the third time, to the Japanese pianist Yuko Hashishiba; from then on they went on all photographic expeditions together. (15) During the course of the years, Mrs. Labuda developed into a respected micro-photographer in the field of electron microscopy.

In 2003, Labuda began working on his photo series "Home of the Gods", which he dedicated to the monuments of European megalith-culture. In 2005, he decided to combine his photographic series into one cycle; he gave it the title *Journey to the Beginning of Time*.



14 - "German shepherd", pen drawing by Win Labuda's father Gerhard, ca. 1935



15 - Yuko Labuda accompanies her husband on his photographic expeditions, not without carrying weight



16 - Win Labuda, Strip of Tideland, Cloud. Photography (2006)



17 - Win Labuda, Devil's Fen. Photo screenprint (1978)

The cycle touches on symbolic images of earth and human history. It depicts a symbolic journey back over several stations, starting with the present age until the beginning of time.

Today, this cycle consists of four series:

- People Today – Pictures of People
- Pictures and Signs – Wall Pictures
- Home of the Gods – Stone Age Architectures
- Beginning of Time – The Earth in Its Primordial State



18 - Nadja and Win Labuda in 2006

In addition to this cycle, there is a collection named *FotoVaria*. It consists of photographs which do not fit into the cycle but which were selected for publishing by Labuda and signed by him.

In 1998, Labuda began a collaboration with his daughter, the art historian Nadja Labuda (18). To date, she has written four essays on the artistic work of her father (see biography).



19 - Win Labuda, intaglio print on rag paper (2002)

Win Labuda's Work Has Been Exhibited Worldwide:

Munich - 1980 "People of this Earth" Solo exhibition of 40 photographs of people in 18 German cities (Hypo-Vereinsbank, Munich)

Paris - 1989 "Oeil de la lettre" Joint exhibition with works by Alexander Rodtchenko, Brassai, Andre Kertesz, Robert Rauschenberg, Man Ray, Aaron Siskind and other leading artists of the 20th century (Centre National de la Photographie, Paris)

Tokyo - 1990 "Art Tokyo - Art Fair" Solo exhibition of 12 pictures of walls, three wood reliefs and four serigraphs (Clean/Art-Galerie)

Düsseldorf - 1998 "Art Multiple Art Fair"

Woodcuts and Piezo prints of conceptual art; joint exhibition with works by KRH Sonderborg, Agnes Voigt and Peter Fetthauer (Kunsthau Lübeck)

New York - 2004 "Aipad-Show" - Photographic Art Fair, 20 dolmen pictures, joint exhibition with works by Peter Keetmann, Walter Schels and others (Photo-Art Hamburg)

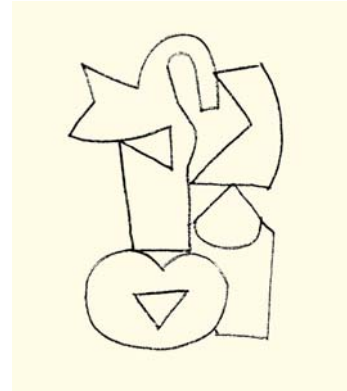
New York - 2005 "Aipad-Show" - Photographic Art Fair, six portraits of children from the series "People Today"; joint exhibition with works by internationally renowned photographers. (Photo-Art Hamburg)



20 - Win Labuda at work at photo screenprints in 1981

The Drawings

In 1982, Labuda decided to dedicate himself to drawing again. However, he did not want to do this by attending conventional drawing lessons. Rather, he decided to produce a large number of quickly sketched pencil line drawings (lineatures) measuring approximately 6 x 7 cm. (21) Thus he would let his own style develop out of himself by means of ceaseless work. He has been creating these small hand drawings for twenty-five years as occasional etudes, as it were, with the aim of keeping his drawing skills alive. A good example is the series "Supper" which Labuda published for an Italian restaurateur and his other friends at the turn of the year 2007. In his essay *Journey to the Beginning of Time* he writes about the drawings: "At first look they appear to be creations of the mind, of fleeting nature, seemingly non-Euclidian geometries. Originally they can be seen as fragments of artful architectures, carefully arranged after they had fallen down, and then recombined to drawing-like buildings and formations. In their new form they can serve as refuge for noble thoughts and feelings. They are metaphors of the words of Schiller: *The old is crumbling down – the times are changing - /And from the ruins blooms a fairer life*. The pictures of childhood appear in these lineatures: a visit to Dresden in 1948, Germany's demolished cathedrals with their Gothic fragments strewn on the ground; the clearing of rubble in the deserts of ruins of the post-war years, the hope for a new life. At the same time they embody healing and valiant hope, which has become form. With the passage of time the iconography of my lineatures has changed somewhat: the fragmentary aspect has more and more given way to an archaic or even a playful form."



21 - Pencil drawing from "Supper", 2007



22 - Win Labuda, "Time Tunnel III", bronze sculpture (Fine Art Foundry Noack, Berlin)

Sculpture

During the Art Multiple Art Fair in Düsseldorf in 1998, Labuda presented his concept of a "time tunnel" to the gallery owner Frank-Thomas Gaulin. It is a hollow cube made of wood, metal or stone which has equidistant, vertically positioned elongated slots. In one or several of these, there is piece of paper that has been rolled, carefully folded and tied with a hemp string.

Both ends of the tunnel allow a look through it and are finished differently than the corpus. Thus the impression is conveyed that the time tunnel is a segment extracted from a much longer, perhaps infinitely long tunnel. The theoretical background to this "time tunnel" is the Jewish tradition of inserting small notes with prayers, thoughts and pleas, as well as words addressed to the departed, into the crevices of the Wailing Wall.

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