



Geweniger · Bohlander

Pilates – A Teachers' Manual

Exercises with Mats
and Equipment
for Prevention
and Rehabilitation

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V. Geweniger
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Exercises with Mats and Equipment for Prevention
and Rehabilitation

With 781 figures and 24 tables

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Foreword

During the late nineteenth century and until the beginning of World War I, “La Belle Époque” – the “Beautiful Era” – was spreading over Europe. This period was characterized by optimism and new technological and medical discoveries. Only in retrospect was it named La Belle Époque and considered a “Golden Age” when compared with the horrors of World War I. A profound cultural revolution in health and wellbeing developed during this period, amongst an exceptional group of people in Europe and especially in Germany. Influenced by Friedrich Jahn, a philosopher, historian, and theologian, and Per Henrik Ling in Sweden, a revision of ancient Greek gymnastics was in the making. Complementing and balancing this new approach, individuals such as Leo Kofler, Elsa Gindler, Rudolf Laban, Hede Kallmeyer, Bess Mensendieck, and Joe Pilates worked on new ethics and principles for body movement. They especially focused on the science of self-awareness through exercise.

Joe Pilates was one of many Europeans intertwining physical practice and mental discipline. Trainers and dancers started to explore the relationship between mind, body, and brain. In common with Alexander, Cohen, Bartenieff, and later Feldenkrais, they shared an urgent desire to educate their clients about internal awareness and sensitivity. This was combined with a focus on moving consciously, to improve control.

The emergence of this movement from the Belle Époque could very well have been a new conceptualization of human individuality, a realization that as individuals we have a unique responsibility and potential. Ultimately, these concepts of self-awareness were imaginative steps toward increased awareness of the body, and the acceptance of personal responsibility for one’s own deeds and actions (Hanna 1986).

This inspiring movement of mindful bodywork would not only have a big influence in Europe and Germany. The tide of transformation washed around the world, reaching as far as North America. In the 1960 s, the revolution in human and cultural change and taking responsibility for one’s individuality was identified exclusively as a typically American phenomenon. However, the roots

of this movement lay in Europe, and particularly in Germany.

The work of Joe Pilates and his partner Clara centered on teaching awareness, proper breathing, and alignment of the spine and strengthening of the torso muscles. After the couple moved to New York, they gained followers from the local performing arts and dance community almost immediately, experiencing this new wave of change. George Balanchine and Martha Graham were early supporters, and later many influential disciples followed. Under the guidance of Pilates and his wife, a somatic conception of “one’s self” emerged. Joe Pilates was a devoted reader of philosophical texts, and repeated the mantra of Friedrich von Schiller: “It is the mind itself which shapes the body.” This emergent process of integrating movement with awareness and consciousness may have been captured best by the words of psychologist Roger Sperry, when he accepted the Nobel Prize in 1981:

- » The events of inner experience, as emergent properties of brain processes, become themselves explanatory causal constructs in their own right, interacting at their own level with their own laws and dynamics. Learning to recognize an internal proprioceptive pattern is not essentially different from learning to recognize the visual outlines of a map.
- » The whole world of inner experience, long rejected by twentieth century scientific materialism, thus becomes recognized and included with the domain of science. (According to Hanna 1986).

Finally, in the late twentieth century, science picked up and incorporated ideas about motor control, feed-forward and feed-back mechanisms, and the significance for exercise and training of patients.

Blending the wisdom of the past, and particularly the Pilates method, with new insights and present-day research in one book is not simple. Contemporary research now expresses clear interest in human motor behavior and what distinguishes the behavior of a healthy person from a chronic patient. At the heart of this research is the realization that dissimilar motor tasks lead to other patterns of

motor behavior. High load tasks combined with a high level of unpredictability seem to favor a stiffening response from the motor system, to guarantee sufficient strength and stability. Low load tasks, with higher predictability, induce a more controlled strategy. The latter strategy is characterized by sharing the load, guarding and steering unilateral movement, as far as possible, from the same side as well as from the inside outward. By contrast, a rigid strategy often creates stiffening and cramping of musculo-fascial systems, leading to bilateral muscle activity. These dual motor pattern mechanisms are not necessarily distinguished in black and white; in fact, there is a large gray zone. Under normal circumstances, the dual pattern is a splendid reaction for executing different tasks successfully. The literature, however, shows that chronic patients often tend to adopt a continuous rigid strategy even when executing low-load and high-predictability tasks. Many patients alter normal motor patterning in such a manner that the sensory and motor cortex of the brain rewrites the neurosystem. The consequence is that the neurosystem uses its qualities of plasticity to create a maladaptive compensatory pattern. The new pattern becomes habituated, and we have learned from new studies that even ligaments and fascial structures adapt very quickly to this new situation. These structural, muscular, and fascial changes could hamper a quick recovery.

Of course, many people with modest complaints who are still functioning rather well show signs of altered motor patterns, especially as a result of our present day lifestyle. Emotional processes also play a big part in this scenario. Fear of movement, for instance, opens up existing preprogrammed motor patterns in the brain, particularly in the periaqueductal gray (PAG) matter in the brain stem. Fear can also be the result of receiving sometimes (very) confusing information about your body from therapists, trainers, and doctors: “Yes you clearly have defined arthrosis of your spine and our test reveals that you are highly unstable in your pelvis and you have some ruptured ligaments and the scan shows ... etc.” Such messages unfortunately create great fear and consequently change motor patterns. Words are very powerful. We should therefore be careful how we relay information to our clients and patients about their condition.

It seems clear what Joe Pilates wanted to achieve: a valid training method to bring patients and clients back to their own inner and outer strength and con-

fidence. For many centuries there has been a strict separation of mind and body. The Pilates method promotes awareness of movement from an inner perspective, and promotes movement from the inside out. This methodology is indeed confirmed and verified by recent data. Like Pilates, many years later Thomas Hanna promoted self-awareness as the main key of analyzing your own body. Hanna pointed out that we have two irreducible viewpoints for observing our clients and patients. There is external observation, analyzing clients “bodies” from the outside, from a “third person’s” point of view. In contrast, the first person viewpoint derives from inner awareness and the perception of what the client feels and registers about him/herself. Using this insight, we should work and focus on input/awareness training simultaneously, but also promote inner awareness of clients so as to achieve what Hanna called “first person regulation” of the body!

Pilates encouraged the execution of effective movement patterns from the inside outward, which is at the heart of present-day discussions about core control. Indeed, how can we use the legs and spine effectively as levers from the pelvis, when at that moment the pelvis is not sufficiently externally stabilized on the hips and internally self-braced by locking the sacrum into the iliac ring? This is of course a discussion of anticipatory feed-forward reactions (see the work of Paul Hodges, Jaap van Dieen and Jacek Cholewicki).

Self-bracing and force closure of the pelvis and lower spine are preconditions for using the legs and spine effectively. When forces increase under more challenging conditions, we have to adapt the level of self-bracing for the different components of the kinematic chain. How can we use levers such as the arms or legs during throwing and walking? By starting with optimal conditions, to force-close the system from inward (center) to outward. If this is the case, should it not be a necessity to recognize that the arm, spine, and leg musculature and fascia are not in fact separate, but actually work together?

Here you may notice again that topographic anatomy is very helpful, and a necessary tool for understanding the body. Unfortunately, it does not explain how the body works as a functional unit. Fortunately, a logical functional approach was already at the center of what Joe Pilates considered effective training.

The present book on the Pilates method clearly illustrates concepts that help us to understand these enigmas. In particular, it represents the wisdom of many practitioners, trainers, and dancers from the past who have built up a tremendous body of intelligent models. The book clearly explains how Joe Pilates developed his methodology by focusing on whole body movements, breathing, concentration, centering, precision, and balanced muscle-fascia development.

Recently, mind-body researcher Herbert Benson from Harvard University underpinned these insights, by showing that slow, deep, diaphragmatic breathing is central to most mind-body techniques. Proper breathing is an effective antidote to stress, restoring rigid strategies to controlled strategies. Alice Domar, a colleague of Benson, shows that mind-body techniques, combined with proper breathing, can significantly reduce symptoms of severe PMS as well as anxiety.

I am delighted to recommend this book to all practitioners, dancers, therapists, and of course Pilates trainers. The authors of this book have put a lot of energy and determination into blending new information for the benefit of their readers. They have woven many contemporary insights into their text, creating a modern interpretation of the Pilates methodology. It is also nice to see a German book honoring the enormous wealth of intelligent ideas from the past, particularly the work of Joe Pilates

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Foreword

Pilates is a wonderful way to bring body and mind into harmony. I have personally benefited from Pilates training for years. Because of its diversity and complexity, an appropriate program can be created for any age or fitness level. As an orthopedic surgeon, I recommend Pilates to my patients, because stability and mobility can be achieved without promoting tension.

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Preface

This “manual” for physiotherapists, physical education teachers, and trainers is the first textbook of its kind, and provides an ideal foundation and guide to accompany certification in modern Pilates. We have brought together the documents and descriptions that form the traditional basis of the Pilates method as well as modern concepts in sports science and movement studies.

From daily practice to daily activity – clearly explained and easy to apply – the fundamental methodology of training, analysis, and didactics is linked to the exercises themselves.

The most important mat exercises are clearly presented, together with their theoretical background and implementation on the Pilates equipment.

Our intention has been to consciously transcend barriers, dogmatic thinking, and the restrictive definitions that inhibit the vital development of the method. This book seeks to define a common vocabulary, thereby facilitating communication between teachers and the exchange of ideas with specialists in related fields.

The positive effects and impact of Pilates training, for decades taught successfully to millions of people, leaving them free of symptoms, happier, and more balanced, should be more accessible as a result of this clarification of the fundamental, underlying principles.

When asked, “Why does one do Pilates?” a student of Joseph Pilates once replied, “To master the challenges of life and to enjoy life!” In this sense, we hope to contribute to making the lives of Pilates trainers and their clients more interesting and comfortable, by helping them to become free of symptoms.

Joseph Hubert Pilates had a comprehensive, unified understanding of his method and the exercises he developed, as well as great dedication. We hope that this book does justice to his legacy, but also reflects the extent of his vision. We consider it essential to present not only exercises on the mat, but also on the Pilates equipment. It is only in a synthesis of all the elements of the Pilates training concept that the exercises can unfold to their full effect.

The Authors

Mühlthal and Cologne, Spring 2014

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- Thanks to the Sissel/NovaCare company for providing the Pilates equipment shown in the exercise photos.
- Our thanks also goes to Joanna Mountifield for the committed and competent translation.
- Finally, thanks to our families, who have encouraged and supported us!
- A very special thanks to Joseph Hubert Pilates and his partner Clara Zeuner, for their life's work. They have enriched and changed our lives.

The Authors

Mühlthal and Cologne, Spring 2014

The authors



Alexander Bohlander

Alexander Bohlander, born in 1964, is a distinguished expert in Pilates training both in Europe and beyond. Having begun his career as a physiotherapist in 1991, Alexander qualified as an alternative health practitioner in 1995, and graduated in the study of osteopathy in 2005. He was cofounder of the first German medical practice to integrate Pilates training into treatment and rehabilitation, when he opened his practice in Dormagen in 1998, incorporating a small Pilates studio. In 2000, he established the Polestar teacher training company in Germany, and soon became a leading figure in Pilates throughout Europe, offering training courses taught by visiting lecturers from the USA. In 2002 Alexander opened the SPRINGS health center in Cologne, which offers the full spectrum of Pilates training as well as a range of holistic therapy. In 2009 and 2013 expanded with two new locations in Cologne. Today Alexander Bohlander travels worldwide as a lecturer, and his holistic approach has significantly shaped the development of Pilates training in therapy and prevention.



Verena Geweniger

Verena Geweniger was born in 1951, and following her graduation in sports studies, taught in German schools for foreigners in South America. It was here during the 1980 s that she discovered and learned to love the Pilates exercises, taught at a ballet studio and known simply as "floorwork." After returning to Germany, she opened 1987 a functional gymnastics studio near Darmstadt. Through Ken Endelman (California), the manufacturer of the Balanced Body Pilates equipment, she met Alexander Bohlander in 1997 and went on to take part in the first Pilates teacher training course he offered in Cologne, taught by Elizabeth Larkam and Brent Anderson. In the following years, Verena deepened her already extensive knowledge of the Pilates exercise repertoire, staying with Alan Herdman in London, with representatives of "classical" Pilates in New York, and at the Polestar Education Center in Miami. In 2001, she took part in the founding of the Pilates Method Alliance (PMA) and taught her Pilates floor program for the PMA. Verena has been instrumental in establishing and developing Pilates in Germany, and her work has appeared in numerous publications. Her initiative led to the founding of the German Pilates Association in 2006, and to this day, she remains the dedicated president of the organization.

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Introduction

Verena Geweniger, Alexander Bohlander

- 1.1 **Why Pilates as Preventative Exercise? – 2**
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1.1 Why Pilates as Preventative Exercise?

■ Promoting a Healthy Lifestyle

Political and societal interest in the topic of **prevention** (prevention rather than cure) has never been greater than at present. At a time of exploding health care costs, coupled with the restriction of medical services to the individual, it is increasingly important to encourage healthy living and avoid unhealthy habits.

In addition to regular cardiovascular exercise, the WHO (World Health Organization) recommends **strength training** for the major muscle groups, at least twice a week (WHO 2011).

❗ **The comprehensive full-body training program developed by Joseph Pilates – particularly the modern form which reflects the more recent findings of sports science and medicine – provides an ideal foundation for modern preventative exercise.**

The aim is to awaken a sense of **personal responsibility** – something Joseph Pilates emphasized in his original writing (Pilates 1934, 1945, in Gallagher and Kryzanowska 2000):

- The **mat program** can be performed by anyone, at any time, without much inconvenience!
- The **equipment program** developed by Pilates represents an efficient and innovative method of therapeutic exercise for either prevention or rehabilitation.

The words of the Roman poet and philosopher von Juvenal (around 60–140 A.D.), much quoted by Joseph Pilates – **the mind builds its body** – can, as we now know, be reversed to state that: **the body also builds its mind!**

» Whoever trains his muscles, virtually floods his brain with fresh nutrients and growth substances. Thus grow new neurons. (Blech 2007, p 6)

■ Natural Movement

Sport and health are not inherently positively associated however. The sports identified with modern civilization (fitness training, competitive sports, and others) do not necessarily replace **natural, regular movement** but on the contrary, frequently cause weaknesses and issues resulting from unbalanced or one-sided movement patterns. “More” is not always “better.”

“Movement is life” (said Andrew Taylor Still, the founder of osteopathy), and it is commonly accepted that “to move yourself, brings blessings.” However, integrating this knowledge in a society and environment which increasingly limits opportunities for movement becomes

ever more challenging. The **appreciation of movement** is closely linked with awareness of a healthy lifestyle in general. Joseph Pilates echoed this awareness, and the tradition of the reform movement, in 1930 when he **recommended** that one should:

- Eat healthily
- Enjoy the sun and fresh air
- Sleep enough
- Move regularly
- Shape one’s body through sports

■ The Social Significance of Movement

Many of the assertions dating from this period retain their validity and topicality today. In 2010, the **Research Institute of the AOK (WIdO)** published the following:

- Muscle and skeletal disorders are the dominant health issue. Almost half (47 %) of the population suffer from back pain. Alarmingly, this finding also applies to a third of respondents aged 20 years or younger.
- In 2009, **back pain** was the most common course of incapacity to work, and was second only to respiratory diseases as the most common cause of work days lost (absenteeism Report 2010, <http://www.wido.de>).

In 2007, Blech cited two million deaths annually resulting from **physical inactivity** (WHO report, see Blech 2007, p 237). By 2011, this had already increased to 3.2 million deaths, of which over 670,000 occurred prior to 60 years of age. Approximately 30 % of all cases in the categories of diabetes and cardiovascular diseases can be associated with physical inactivity (<http://www.who.int>).

❗ **Joseph Pilates outlined the social significance of these factors in “Return to Life”. Individual responsibility for living a healthy lifestyle represents potential for change both at a personal and environmental level. Viewed from this perspective, Pilates exercise in the field of prevention potentially offers a valuable contribution to health, performance and success as a whole.**

1.2 Why Use Pilates in the Therapeutic Field?

■ Pilates and Chronic Disease

Health is more than just the absence of disease. Man is more than just the sum of his (physical) parts. According to the **concepts of Salutogenesis**, which have gained increasing significance in the therapeutic field, the person with health issues is no longer perceived simply in terms of his disease. **Physical symptoms urge** us to pay closer attention to the body. **Pain** can provide a warning for us,

References

to actively pursue a healthier lifestyle. Doctors, therapists and patients are called upon to act mindfully and with increased awareness.

Characteristic of this approach is the perception of the **person as a whole**. Both structurally and functionally, the human body is an entirety, with complex interrelated systems in health as well as in a diseased condition. In addition to this, the processes of perception and interpretation, and the influence of psychological phenomena, are decisive in terms of physical well-being.

❗ **In its methodological approach, Pilates training emphasizes the interconnectedness of the body's resources. Precisely for this reason, it can be used effectively to intervene in the vicious circle which often characterizes chronic diseases of the musculoskeletal system.**

■ Pilates and Acute Disease

For a number of years, the Pilates Method has been successfully integrated into the physical therapy and rehabilitation of **acute diseases, although this has gained limited recognition in Europe to date.**

The term **“Early Functional Treatment”** can embrace Pilates training, and is an important concept in the field of therapy and rehabilitation. Above all, the **training principles** are crucial: they facilitate a holistic rehabilitation process with tremendous long-term effectiveness, in a way that almost no other training can.

The **smooth transition** from the therapeutic environment to the physical demands of the daily routine and the emphasis on preventative exercise and avoidance of injury are central to Pilates training. Having experienced the physical competence and ability gained by training, countless former patients have stated, that they might never have suffered the symptoms that they did, had they discovered the Pilates Method earlier.

❗ **Bearing this in mind, Pilates training represents a real development in expanding the range of services physical therapists and other professionals in the field of rehabilitation are able to offer their clients.**

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History

Verena Geweniger, Alexander Bohlander

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2.1 Who Was Joseph Pilates?

Based on what we know today, Joseph Pilates (■ Fig. 2.1) lived an exciting and – at least for the first 40 years – highly diverse life. Since the training concept he developed can be better understood in the light of its historical context, a brief overview of Pilates’s life is presented in this chapter.

■ Synopsis of Pilates’s Life

9.12.1883	Hubertus Joseph Pilates. Mother: Helena, born Hahn (1860–1901), Father: Heinrich Friedrich (Fritz) Pilates (1859–?), occupation: locksmith
1900	Brewer in Engelbeck
1905	Birth of daughter Helene (Leni) Friedrich on 30.11. in Gelsenkirchen, mother: 1. By his first wife Maria Friedrich (deceased 1913)
1912	Pilates lives and works in England
1913	Sister Anna Helena (*1886) and brother Clemens Friedrich (*1890) emigrate to the USA
1914	Detained on the Isle of Man
1919	Returns to Germany/Hamburg. Second Marriage: Elfriede (1879–1931)
1924	Registers a patent for the equipment known as “Universal Reformer” in Berlin
1925	First trip to the U.S. travelling first class, carrying \$800 in cash, occupation: teacher, age: 41 years old
1926	Second trip to the U.S. in second class carrying \$500 in cash. Meets his future lifelong companion on board the ship: Anna Clara Zeuner (6.2.1883–1976)
1929	Opening of Studio. His birth date on his business card is changed to 1880
1934	Published his book <i>Your Health</i> (“Deine Gesundheit”)
1935	Naturalization of J. Pilates. Occupation: “Director of Physical Culture.” “Not married”
1937	Naturalization of Clara Zeuner. Occupation: “Assistant Director of Physical Culture” “Not married”, registered as living in the same apartment as Pilates
1938	Trip to Cuba
1939–1951	Pilates teaches regularly at summer camps for dancers at Jacob’s Pillow, Berkshire Mountains. He and Clara own a house there
1940	A Canadian newspaper calls his studio a “high-class exercise salon” due to the fees of \$10 per training (Redfield 2011)
1942	Pilates’s entries in the US army draft papers during WWII: 1. “Person who will always know your address”: Clara. 2. Indicates that he lost his right eye at age 5.
1945	Publishes his book <i>Return to Life Through Contrology</i> (“Rückkehr zum Leben durch Contrology”). He demonstrates his mat exercises in a series of photographs – although approximately 62 years old
1967	Pilates dies on 9 October in a hospital in New York. Clara leads the Studio until 1972 (PMA Pilates Study Guide 2005)
1976	Clara Zeuner dies
1977	Romana Kryzanowska continues to lead the Studio

■ Facts and Legends

Following extensive research with the assistance of the Mönchengladbach City Archive, the German Pilates Association established the following findings in early 2007:

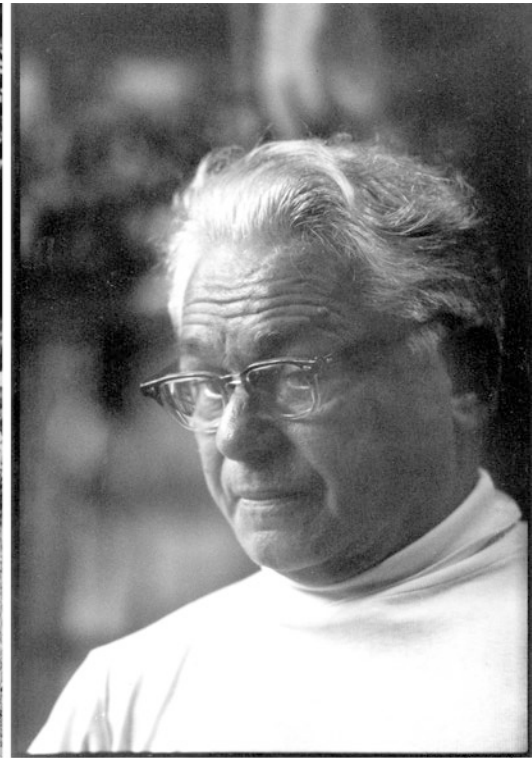
- Hubertus Joseph Pilates was born on **9 December 1883**, at 0:30 a.m. in a house that no longer stands at 20 Waldhausener Street, Mönchengladbach. He was the second of nine children for Helena and Heinrich Friedrich Pilates.
- Pilates’s business card from 1929 lists **1880** as his **year of birth** (information provided per post by Stacey Redfield, March 2011), which is 3 years older than in actuality. The intention behind this is no longer known. Although contradicting official documents, the date was published in the press and adopted in literature. Only after the German Pilates Association published Pilates’s birth certificate in 2007 was the correct date of birth made public.
- At the convention of the Pilates Method Alliance (PMA) in 2007, even his longtime friend and attorney John Steel was unable to provide an answer regarding this **inconsistency about Pilates’s date of birth**. He recalled that as Pilates’s attorney he was always busy, as “Joe was the kind of person, who did not have a will, did not pay taxes or have a driver’s license” (PMA Manual 2007).

Numerous **stories** have been told about Pilates:

- As a **child**, he was weak and sick (asthma, rickets, rheumatic fever and tuberculosis were mentioned). In the 1920 s, however, the “fitness industry” was already booming and had become a “Billion Dollar Industry.” Many advertised their systems as a recipe for overcoming personal suffering of all kinds. The possibility that Pilates claimed to have steered his ailing body through his method purely as a “publicity stunt” cannot be ruled out (Redfield 2011a, Part II).
- At **age 14**, he is said to have been the model for anatomical cards. His father may have provided a role model; a well-trained Fritz Pilates can also be seen in a photo taken during a meeting of the P.E. and sports teachers of the District of Dusseldorf (thanks to the city archives of Mönchengladbach).
- Pilates strengthened his body with bodybuilding, boxing, gymnastics and kung fu.
- From **1912**, he worked in England as a boxer, self-defense trainer and as a “living Greek statue” in a circus (PMA Pilates Study Guide 2005).
- During his internment (1914) in England, he experimented with bedsprings and conceived his first ideas for training equipment. The first piece of equipment patented, the “Reformer” had no springs for resistance, however, and instead used weighted plates.



a



b

■ Fig. 2.1a,b Joseph Pilates

- **After the war**, he worked as a self-defense coach for the Hamburg Police, and was in contact with Max Schmeling, Rudolf von Laban and Mary Wigman (PMA Pilates Study Guide 2005).
- On his second trip to the USA, he met Anna Clara Zeuner from Chemnitz, who was either a nurse or kindergarten teacher. There is no evidence that they were ever married. According to Clara's certificate of naturalization in 1937, they were registered as living in the same apartment, but "not married" (thanks to the city archives of Mönchengladbach).
- In **1926**, he worked in a "Boxing Gym."
- He loved thick cigars, whisky, beer and women (Grant and Fletcher 2001). That did not stop him preaching the benefits of a healthy lifestyle in his writing: moving in the fresh air, taking cold showers, brushing with a massage sponge, wearing scanty clothing in winter to harden the body, and exposing the body to sunlight in the summer ("Return to Life" 1945, in Gallagher and Kryzanowska 2000, pp 38, 59).
- His two nieces, Mary Pilates and Irene Zeuner-Zelonka, assisted him in the studio and were his favorite pupils (PMA Pilates Study Guide 2005).
- Clara's niece, Irene Zeuner-Zelonka, reported that during the last 5 years of life he barely visited the

studio (information provided per post by Stacey Redfield, March 2011)

- Pilates student Mary Bowen adds that **since 1966**, he had been suffering from emphysema and was clearly ill.
- Pilates died shortly before his **84th birthday**, on 9 October 1967. On the day of his death he was apparently very angry, and they had placed a guard outside his room to prevent him running away (information provided per post by Mary Bowen, 2007).

■ Fig. 2.2 shows Clara Zeuner and Joseph Pilates as a couple.

■ Following Pilates's Death

A number of **first-generation students** of Joseph Pilates opened their own studios in the United States. The **most significant** of these are listed below:

■ Carola Trier

Dancer and acrobat, student from 1940 onward, opened a studio in 1950 with Pilates's assistance. She died in 2001. Famous student: Deborah Lesson, who continues her teachings.

■ Eve Gentry

Dancer, student from 1938 to 1968 and teaching since 1960, first at the University of NY, then in Santa Fe.



■ Fig. 2.2 Clara Zeuner and Joseph Pilates

- **Bob Seed**
Hockey player and Pilates student, according to John Steel he was driven out when threatened with violence by Pilates, as he attempted to open his own rival studio across the street.
- **Ron Fletcher**
Graham dancer; opened a studio in Hollywood in 1970.
- **Romana Kryzanowska**
Dancer; ran Pilates's studio from 1977 onward following Clara's death.
- **Kathy Grant**
Dancer; has been teaching her own classes since 1972.
- **Lolita San Miguel**
Dancer; teaches in Puerto Rico.
- **Bruce King**
Dancer with the Merce Cunningham Company; opened his own studio in New York in the mid-1970 s.
- **Mary Bowen**
Jungian analyst, student from the mid-1960 s onward; teaching in her own studio in Massachusetts since 1975.

- **Robert Fitzgerald**
Opened a Studio in approx. 1960; he and Carola Trier were the teachers of Alan Herdman, who brought Pilates to England in the 1970 s.

■ Recent Developments

- 1995 The term "Pilates" is so well known that it is listed in Webster's dictionary
- 1996–2000 Legal disputes: the attempt by a New York studio to register "Pilates" as a trademark was rejected. Pilates is designated a general term for a method of training that cannot be owned by a single person
- 2001 Founding of the Pilates Method Alliance (PMA) in the USA, with the aim of preserving the tradition of the Pilates Method
- 2006 Founding of the German Pilates Association (DPV e. V.)
- 2007 According to the PMA, over 12 million people worldwide exercise using the Pilates method (<http://www.pilates.com>)
- 2009 Founding of the Swiss Pilates Association
- 2011 Founding of the Austrian Pilates Association

2.2 How Was Pilates Integrated into Therapy?

Joseph Pilates developed a concept for the process of functional rehabilitation early on. Working with **the injured** in an adjoining room, he adapted his exercises to their needs and did not follow a set exercise program (as told by Kathy Grant, information received per post from Deborah Lesson 2011).

Training with Pilates must have been effective; at the founding meeting of the Pilates Method Alliance, professional dancers Ron Fletcher and Kathy Grant recalled that in spite of their injuries, they danced better following their work with Joseph Pilates's than before, and recovered faster (Grant and Fletcher 2001).

Dr. Henry Jordan, an **orthopedist** at Lennox Hill Hospital in New York City, was not only a good friend but also a supporter of Pilates's method, and sent him both patients and students. These included **Carola Trier**, who had suffered a knee injury during a show at the Radio City Music Hall in 1940. She eventually worked closely with both men. Trier continued her education in the medical field with Jordan, and Pilates gave her a second career – she was able to open her own studio in the late 1950 s.

In 1960, the **Journal of the Lennox Hill Hospital** described in detail how a "former dancer led an unusual Rehabilitation Center." Jordan would often send patients with orthopedic issues to work with Trier, where they would complete a "program with heavy resistance" on equipment

developed by Joseph Pilates, to build “muscular strength” and “functional skills.”

If Jordan planned to send a patient to Carola Trier for rehabilitation, he allowed her to observe the surgery, so that she was precisely aware of the affected structures. This can be considered the origin of the integration of Pilates’s concepts in therapeutic treatment.

The real breakthrough of Pilates’s method into the therapeutic field was achieved by the first clinic for Dance Medicine, at St. Francis Hospital in San Francisco. The clinic was founded in around 1983 by **Dr. James Garrick** a surgeon who allowed the staff to be trained by Pilates teacher Ron Fletcher in Los Angeles (<http://www.fletcherpilates.com>).

! Orthopedist Dr. Henry Jordan was the first person to integrate Pilates concepts into therapy. However, the breakthrough for Pilates training was achieved by Dr. James Garrick, the founder of the first clinic for Dance Medicine.

2.3 Where Is Pilates Today – In Europe and Worldwide?

In the early 1990 s, Romana Kryzanowska was the first to design a **certification process following the traditional methods**. Since then many of Pilates’s other followers have established training institutions, contributing their own methodologies based on Pilates’s original method. Some of the most well-known names today are dancer Moira Merrithew and chiropractor Howard Sichel (both students of Romana’s), Feldenkrais teacher Elizabeth Larkam, physiotherapist Dr. Brent Anderson, Julie Lobdell and Rael Isacowitz.

Thanks in part to those above the Pilates method has grown over time, and underpinned by the **latest scientific principles** is now accepted worldwide as a system not only suitable for prevention, but also for use in rehabilitation.

The ingenuity of Pilates’s concepts has meant that today, the Pilates Method is a fundamental component of the health and fitness industry. Not only is the method **known worldwide**, teacher training is also available throughout the world.

Ken Endelman, proprietor of the world’s leading manufacturer of Pilates equipment, Balanced Body, has been another driving force in the development and dissemination of the method. Thanks to his initiative in 1999, the rights to the Pilates name were released by court order and use of the term “Pilates” made available to all.

Today, more than 12 million people exercise with the Pilates Method (<http://www.pilates.com>). Yet all too often, the teaching is distorted or diluted to the extent that it no longer accurately reflects the original philosophy. In the

absence of **in-depth knowledge**, Pilates becomes another “fitness trend”, merely an additional “legs, bums, and tums” program for many fitness studios.

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The Pilates Concept

Verena Geweniger, Alexander Bohlander

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3.1 The Philosophy

Pilates's training is not merely a collection of exercises, but is based on his philosophical ideas and **vision of health and wellbeing**. In his books, *Your Health* (1934) and *Return to Life Through Contrology – The Basic Fundamentals of a Natural Physical Education* (1945), Pilates outlines the context and theoretical foundation of his method (Gallagher and Kryzanowska 2000). In their handbook (PMA Pilates Study Guide 2005, p 18), the Pilates Method Alliance summarized **three fundamental principles** of the Pilates philosophy, based on these texts.

❗ **The three fundamental principles of Pilates's philosophy are:**

- Whole Body Health
- Whole Body Commitment
- Breath

■ Whole Body Health:

(Based on quotations from Pilates's *Return to Life*, 1945, in Gallagher and Kryzanowska 2000)

The prerequisites for performing our many daily tasks with pleasure and joy are physical fitness, an evenly trained body, and full control over our mental faculties. Body, mind and spirit must be in equilibrium. The **desired balance** is achieved through:

- Physical exercise
- Appropriate nutrition
- Personal care and hygiene
- Balanced sleeping habits
- Plenty of movement in the fresh air and sunshine
- A balance between work, recreation and relaxation (today: "Work-Life Balance")

■ Whole Body Commitment: To Devote Oneself Fully to Something

(Based on quotations from Pilates's *Return to Life*, 1945, in Gallagher and Kryzanowska 2000)

We can only achieve the best from our physical and mental capabilities through discipline, if we strive throughout our lives to reach our **natural limits**. Our entire life should be focused in this way. By conscientiously performing the **Contrology exercises** 4 times a week over a period of 3 months, new levels of mental strength and spiritual wellbeing will be experienced.

■ Breathing:

For Pilates, breathing could be compared with an "internal shower", and **learning to breathe correctly** was the foremost aim of his method, preceding all other objectives. Consistent and regulated inhalation and particularly exhalation, facilitates:

- The optimal functioning of the body
- Leads to fundamental physical changes
- Cleanses the body
- Rejuvenates, strengthens and invigorates

3.2 The Traditional Movement Principles

■ Pilates's Philosophical Reflections

Like many other "physical educators", Pilates drew inspiration from the movement patterns of animals. Calling his method **Contrology**, he was powerfully influenced by the exercise traditions of earlier cultures and Asian martial arts. Pilates was convinced that the straight spine of a newborn baby exhibited the least deformation and could therefore be considered the ideal (*Return to Life*, 1945, in Gallagher and Kryzanowska 2000, p 59). The **spine** reflects the true age of a human being:

If your spine is inflexibly stiff at 30, you are old. If it is completely flexible at 60, you are young! (*Return to Life*, 1945, in Gallagher and Kryzanowska 2000, p 58)

During this particular period, gymnastic programs, exercise in general and bodybuilding were no longer something out of the ordinary, particularly in Europe where they had become common.

As the beginning of the twentieth century was marked by the Reform Movement and increasing industrialization, numerous publications and pamphlets hailed the benefits of more **natural movement**. Dancing and walking in the fresh air, preferably without clothes, may initially have been purely romanticized concepts, but no later than the 1940 s and 1950 s and particularly in the urban environment of New York City, new so-called **lifestyle diseases** were establishing themselves. The increasing lack of natural, primal movement gave rise then, just as now, to familiar musculoskeletal complaints.

The program of exercises utilizing the **equipment Pilates designed himself** follows the form of his floor exercises for the most part. The particular construction of his apparatus permits a diverse range of **training objectives**:

- Increased strength through resistance training
- Improved mobility through assisted movements
- Improved coordination through complex exercises utilizing unstable surfaces

Through consistent, precisely guided practice, the exerciser can achieve a substantial improvement in his faulty movement habits. The discipline demanded by Pilates, combined with **daily repetition of the exercises**, succeeded in establishing new motor patterns and movement skills, enabling natural and primal movement to be regained.

The key lies in providing a successful, **pain-free movement experience** that counteracts the mechanisms of pain

avoidance, preventing the long-term postural faults which in turn create further issues.

This methodical approach and the connection between the mat and equipment exercises make the Pilates exercise concept unique even today, when modern equipment and materials make numerous other options available to us.

■ The Evolution of Training Principles

The generation which succeeded Pilates and the teachers who were partially trained by him, distilled the diverse and wide ranging fundamentals of his work. A concise set of traditional **Pilates principles** was devised (PMA Pilates Study Guide 2005, p 19), to form the foundation of every lesson (► **Overview 3.1**).

Overview 3.1 Pilates Movement Principles

- Whole Body Movement
- Breathing
- Balanced Muscle Development
- Concentration
- Control
- Centering
- Precision
- Rhythm

To apply the **Pilates Method** therefore means:

- To perform full-body exercises
- To promote natural movement through conscious breathing
- To load joints efficiently and biomechanically, through balanced development of muscle strength and flexibility
- To apply constant mental concentration
- To use only as much muscle strength as is necessary for each exercise, through controlled movement, i. e., use energy efficiently
- To begin all movement of the body from a strong center
- To perform precise, defined movements as accurately as possible,
- To channel the natural rhythm of movement and stimulate muscle engagement through the breath
- (PMA Pilates Study Guide 2005, p 19)

3.3 The Traditional Series of Exercises

Exercises are referred to as **traditional** if they are taught as Pilates himself taught them, this distinction being based on the notes of his students, historical documents, film or teaching passed down by word of mouth. Even here there

is divergence, as Pilates modified his exercises over the years, or adapted them for specific students (interview with Kathy Grant and Ron Fletcher, 2001). As a consequence, any debate about “classical versus nonclassical”, “pure or not” becomes complicated and ultimately unnecessary. A comparison of *Return to Life* with later texts or with the training guidelines of his successors simply reveals contradictory statements.

Whether on the mat or the equipment, the exercises are performed in a **pre-defined order**. Often interlinked by transitional poses, there is a **flow of movement** and seamless merging of one exercise into the next. A fixed sequence of exercises makes instruction easier for the teacher, and allows clients to memorize the exercises more rapidly; “muscle memory” is activated when the pre-determined sequence is consistently adhered to (Ungaro 2002, p 22). This results in flow of movement.

The Pilates Method Alliance recorded the exercises and their sequence in ► **Overviews 3.2–3.4** (PMA Pilates Study Guide 2005, pp 66–71).

Overview 3.2 The Beginner Series

1. Hundred
2. Roll Up
3. Single Leg Circles
4. Rolling Like a Ball
5. Single Leg Stretch
6. Double Leg Stretch
7. Spine Stretch
8. Side Kicks
9. Seal

Overview 3.3 The Intermediate Series

1. Hundred
2. Roll Up
3. Single Leg Circles
4. Rolling Like a Ball
5. Single Leg Stretch
6. Double Leg Stretch
7. Single Straight Leg
8. Double Straight Leg
9. Criss-Cross
10. Spine Stretch
11. Open Leg Rocker
12. Saw
13. Single Leg Kick
14. Neck Pull
15. Spine Twist
16. Side Kicks

- 17. Teaser
- 18. Swimming
- 19. Seal

Overview 3.4 The Advanced Series

1. Hundred
2. Roll Up
3. Roll Over
4. Single Leg Circles
5. Rolling Like a Ball
6. Single Leg Stretch
7. Double Leg Stretch
8. Single Straight Leg Stretch
9. Double Straight Leg Stretch
10. Criss-Cross
11. Spine Stretch
12. Open Leg Rocker
13. Corkscrew
14. Saw
15. Swan Dive
16. Single Leg Kick
17. Double Leg Kick
18. Neck Pull
19. Scissors
20. Bicycle
21. Shoulder Bridge
22. Spine Twist
23. Jackknife
24. Side Kick Series
25. Teaser
26. Hip Circles
27. Swimming
28. Leg Pull Front
29. Leg Pull
30. Kneeling Side Kick
31. Side Bend
32. Boomerang
33. Seal
34. Crab
35. Rocking on Stomach
36. Control Balance
37. Push Up

Joseph Pilates demonstrates a selection of classic exercises from the Advanced Series. (■ Fig. 3.1).

3.4 The Traditional Didactics and Methodology

■ Didactics

Joseph Pilates's teaching style, particularly his **harsh corrections**, may have been appropriate at the time, but would be unthinkable today (DVD documentary by Mary Bowen and Power Pilates). After his death, his original didactic precepts were adapted according to personality; the interpretations of Pilates's method were as varied as the numerous personalities that taught his exercises, sometimes with and sometimes without his authorization.

■ Methodology

Certain **concepts** were characteristic of traditional Pilates training, and are described below. Some of them retain their validity to this day, and can be implemented during exercise series on the mat and equipment.

■ Pilates Breathing

For Joseph Pilates, correct breathing is the elixir of life! Intensive breathing purifies the blood, rejuvenates and revitalizes. A complete exhalation enables the subsequent deep inhalation to flood the body with the maximum amount of oxygen. Traditionally:

- Inhalation through the nose preceded the movement and
- Exhalation through the nose occurred during the movement (Gallagher and Kryzanowska 1999, pp 13, 32 ff).

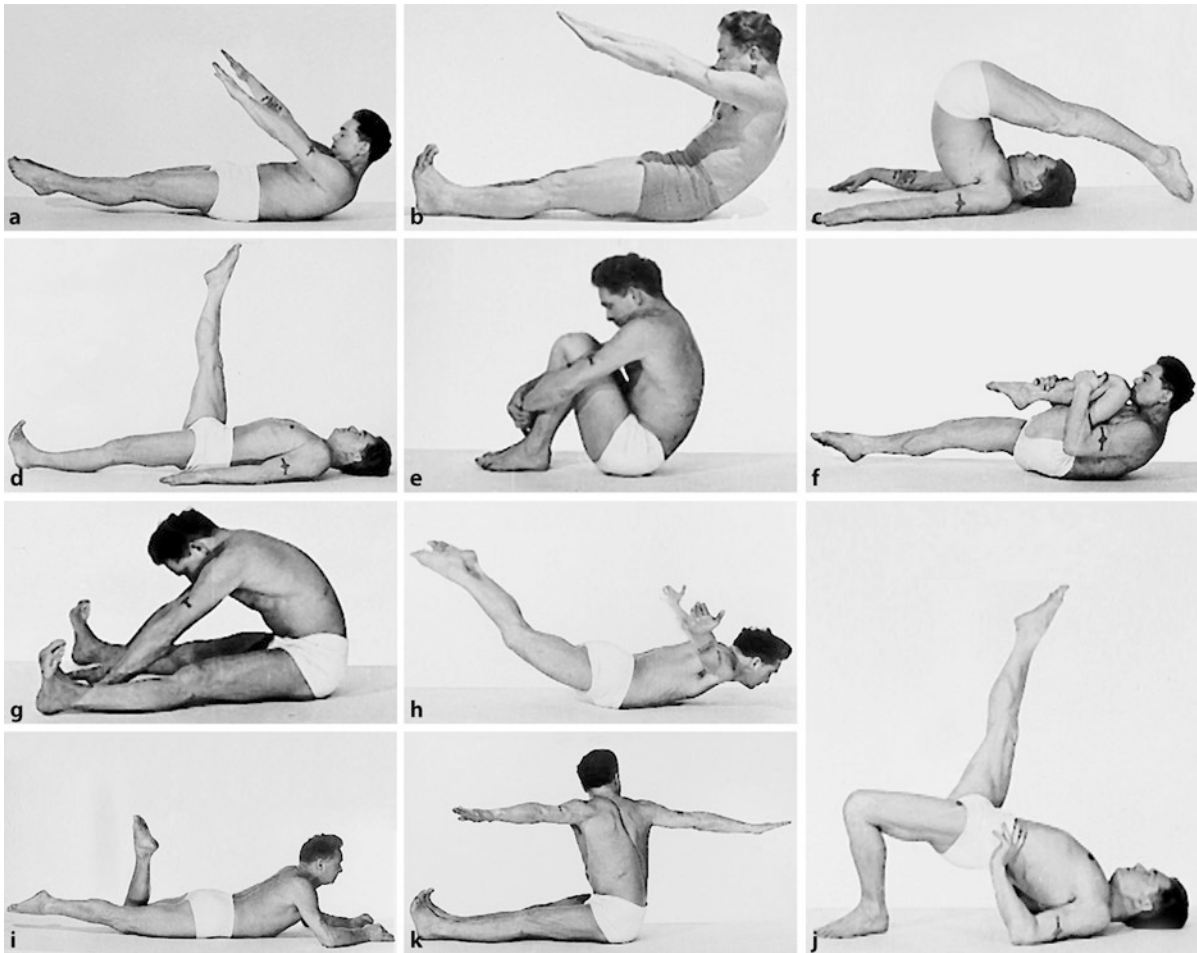
Some authors cite Romana Kryzanowska, and recommend inhaling during the exertion, and exhaling whilst relaxing on completion of the movement (Friedman and Eisen 2005, p 17).

■ Pilates Stance: Foot Position/Standing Position

External rotation of the legs from the hip produces the typical, V-shaped Pilates Stance, with the heels and inner side of the legs pressed firmly together. During Pilates's lifetime, this was typical of **military posture**, in addition to being the preferred starting position for his gymnastic exercises (Gallagher and Kryzanowska 1999, p 27).

■ Flat Back/Spine to Mat/Imprint

According to Pilates's notions of biomechanics, the spine should remain as flat as a newborn baby's during the execution of his exercises, and the term **flat back** was coined. It refers to the action of pressing the back into the floor whilst supine (*Return to Life*, 1945, in Gallagher and Kryzanowska 2000, p 59). The instructions **spine to mat** and **imprint** have a similar goal: by means of a forced posterior pelvic



■ Fig. 3.1a–k Exercises from the Advanced Series. a Hundred, b Roll Up, c Roll Over, d Single Leg Circles, e Rolling Like a Ball, f Single Leg Stretch, g Spine Stretch, h Swan Dive, i Single Leg Kick, j Shoulder Bridge, k Spine Twist

tilt, all lumbar vertebra should have contact with the mat, creating the ideal, stable foundation for certain exercises.

■ Navel to Spine/Scoop: “Hollow the Abdominals”

These exercise instructions are often combined with the instruction “Spine to mat.” The abdominal muscles are engaged to keep the distance between the navel and spine as narrow as possible. Pilates referred to this flattened core – the area between the ribs and hips – as the **Powerhouse** or **Girdle of Strength** (Gallagher and Kryzanowska 1999, p 27). Activating this central girdle of power is the basis of every exercise.

■ Pinch/Squeeze: “Squeeze the Buttocks”

“Whenever you’re standing, sitting or lying, just imagine a coin between your buttocks. Tighten the muscle of the buttocks so that they squeeze the imaginary coin. Continue to press and train these muscles ...” (Gallagher and Kryzanowska 1999, p 14).

■ Chin to Chest

The Pilates repertoire features a number of rolling movements, designed to keep the spine young and flexible and to clean the lungs. In order to roll “one vertebra at a time” (segment by segment), the head is curled forward, keeping the neck long; the chin should either try to touch the sternum (Friedman and Eisen 2005, p 31) or be held parallel to the breastbone (Ungaro, 2002, p 15). This neck posture should protect the neck, facilitate centering during rolling movements, and help anchor the spine to the mat during supine exercises.

■ Pits to Hips

Keeping the shoulder blades down should allow the neck to elongate and release any tension in the neck and shoulder area. Here, the **shoulder blades** are drawn down **toward the spine** and “pressed” lower than their normal position (Ungaro 2002, pp 16).

3.4.1 The Traditional Structure of a Class

- Equipment and mat exercises were combined in a form of “circuit” during each session.
- Pilates developed special, particularly **thick mats for his exercises**, with loops for the feet or a wooden rod integrated at the head end, to facilitate rolling movements for example.
- The **dedicated mat program** as a complete choreography was probably developed during the 1940 s, for the regularly scheduled dance camp at Jacob’s Pillow (information provided per post by Stacey Redfield, May 2011).

❗ **The goal of training was a body “as flexible as a cat, and not as muscular as a brewery horse” (Return to Life, 1945, in Gallagher and Kryzanowska 2000, p 57).**

- Pilates demanded that students attend training **3 times per week**.
- All participants started with a **beginner program**.
- **No exercise** was repeated **more than 10 times**: “favorite exercises” were not to be repeated more frequently, or other less popular exercises neglected.
- There was **little talk** during class, particularly not from students, and there were **no breaks**, “no drinking water.”
- After training, a **cold shower** and a whole body massage with a brush were recommended (description of teaching by John Steel, 2007).
- **The first 5–9 mat exercises at least** were to be practiced **at home** for a minimum of 10 minutes, preferably daily

❗ **In total, training and showering should take a maximum of 45 minutes (CD: Ungaro 2000)**

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Pilates as Preventative Exercise: Foundations

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