Abstract—In the spring of 1910, Oskar Kokoschka painted a portrait of the eminent Swiss psychiatrist, neuroanatomist, temperance champion, and myrmecologist Auguste Forel. The painting is a remarkable psychological portrait but also appears to predict the strokes and right hemiparesis that affected Forel more than a year later. Although it is possible that Kokoschka shared a gift of psychic prediction with his mother and grandmother, a more likely explanation can be ascribed to a combination of the artist’s acute perception and the presence of subclinical signs of stroke disease. (Stroke. 2005;36:2037-2040.)

Key Words: cerebrovascular accident ■ history

“There is something fatal about a portrait. It has a life of its own.”
Oscar Wilde, The Picture of Dorian Gray.¹

In the Kunsthalle in Mannheim hangs a powerful and stark painting of an older man (Figure 1). The texture of the painting is thin and dry, with a rubbed or scraped quality that implies the use of hands. The effect of this flatness and lack of modeling is to convey an eerie sense of immediacy, likened by some commentators to X-ray films, still a novelty at the time of creation in 1910. To a medical eye, the posture of the subject is not normal. The right hand is held in a flexed posture and the right eye has a staring, ptotic quality that is quite different to its fellow. A geriatrician or neurologist might reasonably infer (as did the sitter and his family) that the appearance was suggestive of the sequelae of a stroke. As a result, the eminent Swiss psychiatrist, neuroanatomist, and myrmecologist, Auguste Forel, and his family refused to purchase the painting. Neither he nor they were aware of any such disability at the time. However, after a series of strokes that gave rise to a right hemiplegia more than 18 months later, they agreed that the painting did indeed represent a likeness of the composer after the stroke.

The apparent prediction of a stroke by an artist with no medical training is only one intriguing aspect of this painting. The other is the meeting of 2 hugely creative personalities from the German-speaking worlds of art and science. Both were outstanding in several disciplines, remained creative into their ninth decade, and both wrote hugely informative autobiographies. Kokoschka’s is truly fantastic, with a strong emphasis on mysticism, cryptotheology, and the importance of visions.² Forel, on the other hand, is on the surface more sober, yet the text teems with remarkable ideas and cross-connections, particularly between neuroanatomy, the social life of ants, addiction, sexuality, and the Bah’á’í faith.³

Auguste Forel
Auguste Forel is now relatively unacknowledged outside the German-speaking world of medicine. This is a pity because few have contributed so significantly in so many fields of neuroscience. One marker of the breadth of his understanding was his publication of the first popular work outlining an integrated model of the neurosciences, from the neuron to clinical manifestations of disease, taking into account social influences.⁴ A dedicated neuroanatomist, expert on ants, pioneer in the treatment of alcohol, as well as reforming psychiatrist, his career path was unusual. He became interested in myrmecology (the scientific study of ants) at the age of 11, when his naturalist uncle, Alexis Forel, introduced him to textbooks on the subject as well as to the techniques of preserving ants. His observations made at this tender age formed the basis of his first publication 10 years later, and he continued to research and write about ants for the rest of his life. At the time of the first World War, he had amassed the largest collection of ants in the world. His book on the ants of Switzerland won the gold medal of the Swiss Society of Natural Sciences and Académie des Sciences de Paris.⁵ It also received high praise from Darwin. His classic work on the social life of ants, published when he was 73, compares and contrasts the social behavior of humans with that of ants and suggests some neurobiological determinants of both.⁶

After his training as a doctor in Zürich, he spent 9 months learning neuroanatomy with Meynert in Vienna and then became an assistant physician to Gudden in Munich. Here, he assisted in the development of the first functional microtome and undertook the first study of the complex nuclear and...
fibrillar organization of the tegmental region, including the discovery of the zona incerta. This was groundbreaking work, and some components still bear his name, such as the tegmental fields of Forel (campus Foreli). He continued his neuroanatomical work after his appointment as director to the Burghölzli asylum in Zürich. Here, his laboratory work centered on the origin of the cranial nerves and resulted in one of the first formulations of the neuron theory, more than 4 years before Wilhelm von Waldeyer drew the attention of the world to it. Some commentators felt that Forel was upset that Waldeyer, who had not contributed any original research to the theory, had received most of the credit, and this led to Forel withdrawing from research in neuroanatomy.

However, it is more likely that the demands of reforming the ill-organized Burghölzli asylum, as well as his growing interest in hypnotism and the treatment of alcohol dependency drew him away from laboratory work. He used hypnosis extensively and outlined many therapeutic successes in his autobiography and his textbook on hypnosis. His interest in alcohol was sparked by an encounter with a shoemaker who assisted in a religious abstinence program. Forel adapted many of these ideas for his treatment center, the Ellikon Centre, the first of such in Switzerland. This marked a lifelong dedication to the alcohol abstinence movement, with lecture tours throughout Europe, Russia, the Balkans, Turkey, and Canada.

His relatively early retirement from the Burghölzli, at the age of 50, marked an increase in many of his other activities. Although continuing some private practice and lecturing, he embarked on extensive philosophical and sociological study of the nature of sexuality, monism, pacifism, and alcoholism.

Die Sexuelle Frage (The Sexual Question) was his best known contemporary work and was published in many languages and 17 editions, appearing when Freud’s writings were beginning to be widely circulated. His tenacity of spirit was illustrated by his self-rehabilitation from the right hemiplegia after his strokes in 1912. He learned to write with his left hand, and his travels and writing continued after a short period (Figure 2). His fierce agnosticism only abated with his adoption of the Bah’i faith in 1920; this was rewarded by a “Tablet” (epistle) to him from the Bahá’u’lláh himself.

A sad coda for this pioneer of Swiss neuroscience was the recognition of an unattractive eugenic trait in his writings and thoughts. Although some have claimed that these were expressed in a limited and controlled way, it is difficult to reconcile this with his concerns as to which of the human races “can be of service in the further evolution of mankind, and which are useless? And if the lower races are useless, how can they be gradually extinguished?”

In his defense, Die Sexuelle Frage was banned by the Nazis for its liberal attitudes toward homosexuality, contraception, and abortion.

Oskar Kokoschka

Doppelbegabung (doubly gifted) is insufficient to describe the multitalented Kokoschka (1886–1980). A key figure in
the development of the Expressionist school, it was the publication of his play, *Murderer, Hope of Women*, that was a signal of the arrival of the Viennese wing of this movement in 1907. Recognized in German-speaking countries as a writer and dramatist as well as a painter, his career was advanced by the great Viennese architect, Adolf Loos. His early portraits, before his tempestuous affair with Alma Mahler from 1911 to 1914, are marked by an aggressiveness and tension, shown particularly in the sitters’ hands, which have an emphasis that is often revealing of the sitters’ inner feelings. There is also an emphasis on underlying vulnerability and pathology that prompted the analogy of X-ray films to his contemporaries, more perhaps as an interpretative frame of reference rather than as an actual resemblance. Kokoschka did not seek technical accuracy (“a person is not a still life”) but rather the mental impression of a sitter. His intention was to make the image transparent, rejecting the idea of it being a representation. He wanted the painted image to bring phenomena to light that neither photography (which mechanically exposes) nor painting (which theatrically illuminates) are in a position to reveal. The artist described this as the difference between “sight” and “vision.” According to his philosophy, sight reproduces the 3 dimensions, but vision represents the “fourth dimension,” which is psychic and inward. He outlined this credo in a famous, albeit rather opaque, lecture in 1912. In his autobiography, he later stated, “I could have foretold the future life of any of my sitters at that time, observing, like a sociologist, how environmental conditions modify innate character just as soil and climate affect the growth of a potted plant.”

**The Painting**

The circumstances surrounding the creation of the painting were not propitious. Loos, Kokoschka’s patron, promoted the commission. Forel had never heard of the 24-year-old Kokoschka or his patron Loos; Kokoschka was unaware of Forel’s fame and had never read any of his work. The interaction between the younger painter and older scientist was marked by coolness. Forel devotes a single paragraph to it in his biography. At the request of Forel, the painting occurred in the evenings after his work, and Kokoschka seemed to be fascinated by Forel’s reserve, taciturn nature, and habit of eating nuts and fruit as an evening meal. One amusing moment occurred when Mme Forel and her daughter joined the artist and sitter. Kokoschka was uneasy about the subject matter of the discussion, which centered on family affairs and what seemed to be strange problems of marriage, violence, and procreation. It was only at the end of the stay that he realized that all three were avid biologists and had been talking of their studies of ants! Forel had reserved the option to refuse the picture and exercised this right. He thought that it was not so much a likeness as an expressive atmosphere. Speaking of this and Kokoschka’s other portraits, he opined that they seemed to belong more to “the realm of psychiatry than art as, in my opinion, do most of the Cubists, Impressionists, Antiperspectivists, Antidraftsmen, daubers and so on.” Kokoschka stated that Forel thought that the picture made him look as if he had had a stroke. The family wouldn’t buy the picture, saying that it didn’t look like father, who “hadn’t such dead eyes or cramped hands.” After the strokes, they had modified their view and accepted its great expressiveness and admitted that it portrayed the essence of the soul of this great man. However, it had already been sold through the Berlin art dealer Paul Cassirer in 1910 and was subsequently sold to the Kunsthalle Mannheim.

**Chronicle of a Stroke Foretold**

There are several possible reasons for the appearance of signs suggestive of a stroke in the portrait. One is sheer coincidence and that the posture assumed resembled a stroke; however, both Kokoschka and Forel state that Forel thought that the picture made him look as if he had had a stroke.

Another is that Kokoschka truly had psychic abilities. He describes what appears to be a gift for foretelling the future in his mother and grandmother. The world of his colleagues was certainly overwrought emotionally. The atmosphere of the day was heated and fantastic; he was much influenced by the *Picture of Dorian Gray*, a favorite book of his friend, Karl Kraus, editor of the Viennese satirical weekly *Die Fackel*. Undeniably, there is a resonance between the pictures of Forel and Dorian Gray; however, although there is some possibility that a basis exists for a more close examination of psychic phenomena, a more likely explanation lies in a combination of subclinical illness and Kokoschka’s hyperacute powers of observation.

Kokoschka’s early portraits are a catalog of pathography and vulnerability. In the portrait of 2 sanatorium patients, Ludwig Ritter van Janikowsky and Count of Verona, he perceived in one the resignation of a man caught in the grip of a mental illness, and in the other, the ghostly presence of tuberculosis feeding on its victim. His portrait of the Marquise de Rohan-Montesquieu is an atlas of neurasthenia, that of her husband of chronic illness. The head of Martha Hirsch was described by a contemporary critic as “an unhappy woman, pale, nervous, care-worn, with her daemonic cow-eyes narrowed to a depressive slit.” He had some sense of this quality of observation and, in later years, referred to it as his “psychological tin-opener.” His sense of portraying subtle signs of vulnerability had already been noted in details of a painting, *Child With Parent’s Hands*. Commentators who criticized the thickening of some of the fingers were astonished to learn that the father had broken these fingers in childhood and had forgotten this fact until prompted by the painting.

There is also a strong likelihood that Forel may have had subclinical stroke disease. Subclinical forms of stroke disease are increasingly recognized, such as vascular higher-level gait disorders or vascular dementia, which may not be appreciated as such by those affected. In his biography, he notes the onset of the stigmata of atherosclerosis from his early 50s, mentioning that he had acquired this trait from his mother. It is not clear what were the manifestations, and it is tempting to speculate that it may have been a minor stroke. In support of this is the fact that although most biographers write of his stroke in the singular, it is clear from his biography that he had at least 2 strokes. The first, marked by dysaesthesia (which the myrmecologist, true to form, referred to as formication) and word-finding difficulty, occurred May 17, 1912.
1912. Although this was clearly a stroke, his friend and colleague, Professor Mahaim, assessed him 3 days later and attributed the episode (despite persisting dysaesthesia) to excessive fatigue. The anoma became more marked 8 days after the first stroke, when he experienced more severe word-finding difficulties. The following morning, he had a major stroke, during which right hemiplegia, dysphasia, and dysarthria occurred. A possible further extension occurred in October of the same year. If he had previously had a minor stroke affecting his right side, it may well be that would not be noticeable unless the subject was tired or very relaxed.

This was indeed the case. The psychiatrist asked whether the painter minded if he went to sleep and, permission granted, often slept during the sittings. “Then I could really study the way he sat in the chair, and see how the wrinkles in his face increased and deepened. Myriads of small wrinkles appeared, like the documents of a man’s life, and I felt that I must record them all, decipher them like old parchment and hand them on to prosperity. His face, and especially his hands, fascinated me. His fame meant nothing to me....”2

One challenge to this interpretation is the presence of widening of the palpebral fissure on the left side in the portrait. However, although classical teaching suggests that this may be an outcome of stroke, there is a body of evidence that ptosis may occur on the affected side in up to one third of hemiparetic strokes.25

It is likely that this combination of circumstances that portrayed Forel at his most vulnerable, combined with the occult disease, fired the intuitive observation and artistic vision of the artist. The qualities that Kokoschka describes as integral to the art of painting are also those of clinical medicine. Not only does he champion a radical and challenging form of observation but also the dual responsibility of sympathizing with the sitter while at the same time maintaining a professional reserve: “My profession, which taught me only to trust only in my eyes and what they have seen, has developed in me the instinct of always sensing, at the right time, any danger of the painter being dragged over to the subject’s side.”17 It is these qualities that make the picture of August Forel more than just a fascinating collision between the worlds of art and medicine. They reaffirm the strength of the professional attributes of engagement, observation, and appropriate detachment that lie at the core of good clinical practice. Medical humanities programs could benefit from an emphasis on that which clinicians share with artists:

“What the artist is always looking for is the mode of existence in which soul and body are one and indivisible, in which the outward is expressive of the inward, in which form reveals.”26

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