

OBITUARY

Gerard De Josselin de Jong



Professor Gerard De Josselin de Jong (1915–2012)

Gerard De Josselin de Jong, Emeritus Professor of Soil Mechanics at Delft University of Technology, died at The Hague, The Netherlands, on 2 December 2012, at the age of 97 years.

Jos, as most of his friends and colleagues called him, was born in Amsterdam on 27 March 1915. He went to school in Haarlem, and studied civil engineering at the Delft University, where he actively participated in student life, using his many artistic capabilities. He graduated in 1941, when the university was in difficult circumstances because of differences of opinion in Delft on the way to respond to the various decisions of the German authorities, for instance regarding the dismissal of Jewish professors and staff. He decided to try to reach England, in a canoe with a colleague, Pieter De Lint, but after 30 km at sea they were arrested by a ship from the German Kriegsmarine. They initially received a death sentence, but this was later reduced to 15 years' imprisonment in Germany, reportedly because of the honest way they presented their intentions. At the end of the war he was freed by British troops, and returned to Holland.

For a few years he concentrated on painting and drawing. For instance, he made a large allegorical painting representing the plight of students during the war, now in the auditorium of the university at Delft. He lived in Paris for some time, working for a design bureau, but he returned to Delft after his marriage. He worked at the Delft Soil Mech-

anics Laboratory, as director of research, and received a PhD at Delft in 1959. For a year he was visiting research assistant at the University of California in Berkeley, and when he returned to Delft he was appointed full professor at the university, in applied mechanics and in particular soil mechanics.

His scientific work was of a fundamental and original character, and often illustrated by beautiful figures. His first important work, performed in California, was the modelling of transport of a pollutant in the flow of groundwater. He argued that the mechanism of dispersion in the direction of flow differs from the dispersion in the lateral direction. This leads to a much larger effect of dispersion in the flow direction than in the transverse direction. He validated his theory by careful experiments. At this time Jacob Bear, another first-class expert, was in Berkeley as well, and he immediately understood and accepted the theory; he presented it in his many books and publications, which helped to make the theory generally accepted.

Probably his main contribution to basic soil mechanics is the development of the double sliding, free rotating model for the plastic deformations of granular materials, such as sand. This theory was not immediately accepted, however, perhaps because some of the results indicated that the results of shear tests on soils often are unreliable, and not reproducible, because of the influence of the horizontal stress. He suggested that in the case of small horizontal stresses the deformation mechanism was that of a falling row of books, and not of shearing along horizontal surfaces. He was very pleased when in 1984 Professor Peter Wroth in his Rankine lecture expressed his full support for the theory, which is now widely accepted.

The artistic gifts of De Josselin de Jong were also shown by the many beautiful illustrations in his papers. His reputation was not only established by the quality of his theoretical and experimental work, but also by his drawings. He developed a personal style for the illustrations, using hand-drawn lines, circles and hatchings. It is characteristic that he refused to accept that *Géotechnique* modified some of his drawings to conform to a new house style. He travelled to London, with a razor blade, a drawing pen and a bottle of Indian ink to repair the damage, because he considered it essential that the figures should also bear his signature.

After his retirement he continued his scientific work for many years, often supported for the mathematics by Professor C. J. van Duijn and Professor R. J. Schotting. But when he was 85 years old he admitted to a journalist who was impressed by his continuing activity that he regretted that he no longer was 75 years old, because then he 'was at his top'.

His major publications are assembled in the volume *Soil mechanics and transport in porous media, selected works of G. de Josselin de Jong*, by Ruud J. Schotting, Hans (C. J.) van Duijn and Arnold Verruijt, Springer, Dordrecht, 2006. He is survived by two sons and a daughter, grandchildren and great-grandchildren.

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