

OBITUARIES

ONE OF THE MOST SIGNIFICANT British personalities in the world of surveying and photogrammetry during the 20th century died on 11th December 2018 at the age of 98. **Walter Purvis Smith, CB, OBE, MA, FRICS, FIP** was born on the 8th March 1920 to John and Margaret Smith in Houghton-le-Spring, Co. Durham. He was educated at Wellfield Grammar School and went on to study at St Edmund Hall and gain the MA degree of the University of Oxford. After a brief period in the Royal Artillery, Smith was commissioned into the Royal Engineers in 1940 and was engaged in coastal defence surveys until, in 1943, he became involved in mapping the northern coast of France in preparation for the D-Day landings. After landing at Arromanches-les-Bains in June 1944, he undertook surveys in support of the Artillery for which he was awarded a military MBE. This was followed by a period working for the Control Commission for Germany on the rehabilitation of some German survey offices. Soon after he was demobilised in 1946, he joined the Directorate of Colonial Surveys (later to become the Directorate of Overseas Surveys (DOS)) as a land surveyor. By November of that year he found himself the leader of a team of three *en route* for the Gold Coast (Ghana) where he was to face the first of the many challenges with which he would be confronted during his career. His mission was to provide field control for mapping the area covered by the Volta Dam project. However, because, at this time, the Directorate had no prior experience of working in rural Africa, the logistical and administrative support was inadequate and Smith soon realised that he did not have the staff and resources to complete the project in the planned six months. One of Smith's primary complaints was the poor quality of the aerial photography being supplied by the Royal Air Force and, in November 1947, he reported that it was difficult for a surveyor to locate his position, let alone identify a control point. The task was finally completed in January 1948 and Smith moved east to work in Tanganyika (Tanzania) and Nyasaland (Malawi). One of the many operations in which he was involved was the measurement of a base line at the foot of Mlanje Mountain, some 30 miles east of Blantyre. It took six weeks to measure the length of 12 miles with a 100-foot metal tape suspended between tripods. Shortly afterwards, the tellurometer came on to the market making it possible to measure the distance by electromagnetic methods in a few hours. In 1946, Smith had married Bettie Cox and they found that their long periods of separation punctuated by infrequent and short periods of home leave were not to their liking. A request from Smith for his wife to accompany him on some short tours met with a firm but polite rebuff from the Director, Brigadier Martin Hotine. However, Smith was more persistent than others who had previously made such a request and he entered into an exchange of correspondence with Hotine in which he suggested ways in which the matter might be handled without an adverse effect on progress in the field.



Walter Smith

Smith was unconvinced by the long philosophical replies from his Director and did not hesitate to resign in 1950 when he was offered a job as General Manager of the Air Survey Company of Rhodesia Ltd in Salisbury, Southern Rhodesia (now Harare, Zimbabwe) by his former army boss, Brigadier Alexander (Sandy) Prain. Smith worked hard to improve the standing of the company and achieved success by producing high quality work which in turn required a well-trained and professionally qualified staff. At this time there was little formal training in practical land surveying outside the government agencies and the few surveyors who joined the company from the Royal Engineers, the Directorate of Colonial Surveys and the Ordnance Survey organised in-house courses in order to train local surveyors. In 1954, he was appointed chief surveyor in the company's enterprise in the UK, soon to become Fairey Air Surveys Ltd (and later Fairey Surveys Ltd). He played a major part in negotiating the company's first large contract which involved mapping much of the Zambesi Valley in preparation for the Kariba Dam project. He was soon appointed general manager and later served for a period as technical director and then joint-managing director. He became managing director in 1969. As the company expanded and obtained contracts in Iraq, Iran and Thailand, the training of competent staff was again his highest priority. He understood the need for delegation and departmental managers were encouraged to use their personal initiative within the constraints of maintaining company policy and a congruous team. In turn he needed to balance the demands of the drawing office and busy photographic and photogrammetric departments in the UK with those of the air crews and surveyors working from remote and sometimes dangerous bases overseas. In 1961, a very large contract for the Water and Power Development Authority in East Pakistan (Bangladesh) stretched the resources of the company and Smith and his team of experienced managers implemented a carefully planned re-equipment programme which ensured that the company purchased a full range of good quality robust equipment. Although he was keen to embrace advances in technology, he would only do so when he and his managers were

convinced that it had reached a state of development which would ensure that greater efficiency would soon recoup the cost of purchase. A small parallel research and development company was set up to exploit some of the ancillary surveying and photogrammetric equipment developed within the company. Smith insisted that the company maintained a wide customer base and, in the 1960s, obtained contracts in the UK for large-scale surveys of motorways, railways and new town development which were managed alongside projects in the Middle East, Far East and Africa. He encouraged diversification into airborne geophysics, small-scale cartography for atlases, road and leisure maps together with close range photogrammetric applications in architecture and industry. In 1965, Smith became a member of the Field Mission that examined the long-standing Argentine–Chile frontier dispute and he took a close personal interest in the associated mapping that the company conducted. In the 1970s, trading conditions for commercial survey companies were becoming increasingly difficult. The DOS was cutting back on commissioning work overseas and many countries, especially in Africa, were not letting contracts. In countries where work was available, there could be serious currency exchange risks together with uncertainties with respect to payment terms and cash flow. In the UK, prices for contracts were often unrealistic and uneconomic.

In 1975, Smith decided that the time had come for him to seek a new challenge and he accepted a position as an advisor in surveying and mapping at the United Nations (UN) in New York. A significant part of his work involved identifying mapping tasks in under-privileged countries for which the UN might consider funding. If funding was agreed, then he was required to bring the client and a suitable vendor together and ensure that the aid allocated was used to best advantage. He travelled widely and sometimes found himself dealing with former customers and associates. Although he gained satisfaction from the work, the scope for using his own initiative was restricted by the necessary constraints imposed by a large organisation. Smith needed a more personal and demanding challenge.

In 1977, he became the first civilian to be appointed as Director General of the Ordnance Survey (OS), a position he was to hold until his retirement in 1985. His predecessor, Major-General Brian Irwin, had been appointed as a serving officer and continued in post as a civil servant after the position became a civil service appointment in 1974. The task of introducing new technology and making the OS more cost-effective and aware of the needs of its customers was a challenge for which Smith's previous technical and managerial experience had prepared him well. Negotiating with a government in which some ministers did not find it easy to understand the need to maintain a national survey organisation was a political challenge that taxed his mind and demanded using his skills and arguments in ways that he had not previously explored. After 186 years of military management, the OS was refreshed by Smith's different and commercial outlook. His in-house discussions soon gained him the trust and confidence of the staff. This was essential if he was to make the changes that were necessary in order to balance the stringent demands of government with the need to preserve the high quality of OS products and maintain a loyal and committed team. In 1978, Smith was invited to join the Ordnance Survey Review Committee under the Chairmanship of Sir David Serpell where his technical and commercial experience added much to the deliberations. Overseeing the implementation of the technical, logistical and cultural recommendations of the review became Smith's primary task during his term of office. Staffing levels were steadily and significantly reduced, the digital mapping programme was expanded, management practices were implemented which ensured that costs were monitored and staff were made aware of the need to satisfy customers by understanding their needs. The most difficult task was to change the corporate culture from being conservative, inward-looking and steeped in

tradition to being forward-looking and responsive to change and developments elsewhere whilst retaining the element of tradition necessary to maintain the *esprit de corps*. After some years of preparation, DOS was finally merged with OS in 1984 thereby creating in Smith's words "a breadth of talent that is hard to equal in any other national mapping organisation". A senior OS colleague summed up Smith's term of office by saying "Smith was a good Director General. He was the right person at the right time". Smith was appointed a Companion of the Order of the Bath in 1981.

From 1957 to 1960, Smith was Commanding Officer of 135 Survey Engineer Regiment (TA) which then consisted of four squadrons based in Ewell, Southampton and Fulham. He soon identified that most of the volunteers had achieved technical competence in their civilian employment but evening and weekend courses were necessary to enable them to adapt their knowledge and skills to the military need. He also became aware that, with the advent of volunteers who had not experienced National Service, the military training of the regiment was below standard and he instigated appropriate weekend training courses and organised a rigorous cadre for junior NCOs at the School of Military Survey (now the Royal School of Military Survey). In 1960, his MBE was advanced to an OBE.

Outside his mainstream employment, Smith contributed much to the health and well-being of the overall land surveying and photogrammetric industry. He was a founder member of the Land Surveying Division (now Geomatics Group) of the Royal Institution of Chartered Surveyors, serving on the Divisional Council for a total of 22 years and becoming its chairman for the period from 1967 to 1969. He was chairman of the UK National Committee for Photogrammetry and Remote Sensing from 1985 to 1988, leading the delegation to the ISPRS Congress at Kyoto in 1988. He was also President of the European Organisation for Experimental Photogrammetric Research (OEEPE – now EuroSDR) from 1984 to 1985. For the period 1985 to 1987, he was deputy chairman of the Government Committee of Enquiry into the Handling of Geographic Information. The Royal Geographical Society awarded him the Patron's Medal in 1985.

From its foundation in 1952, Smith was a stalwart supporter of the former Photogrammetric Society and was a member of Council for a total of 13 years and President (P) from 1971 to 1973. He believed that the Society should bring together all those with an interest in the subject and he gave full support to members of his staff who chose to take office or to present papers. He was made an honorary member (H) in 1981. As the longest surviving former President, he proposed a toast to the success of the newly formed Remote Sensing and Photogrammetry Society at a *Conversazione* held at the Globe Theatre, London in May 2001.

Throughout his career, Smith was keen to improve levels of technical and managerial performance and he encouraged training schemes for people at all levels of the industry in order to enhance the professional and technical standing of the individuals and to improve the efficiency of their organisations. He was a firm but kind and understanding man who always found time to listen to the problems and ideas put forward by his staff. He was a succinct and lucid speaker who could hold his audience and be relied upon to get to the heart of any issue. The effect of his influence on the geomatics industry will remain with us for many years to come.

Smith enjoyed his hobbies of woodworking, walking and music. He was predeceased by his wife and is survived by his son and daughter.