

# Academician A. N. Tupolev

## Honorary Fellow

### 1888-1972



“ON 23rd December 1972 there died in Moscow in his 85th year the very great aircraft designer, Deputy of the Supreme Soviet of the USSR, Thrice Hero of Socialist Labour, Lenin and State Prize Winner, General-Colonel-Engineer, Academician Andrei Nikolaevich Tupolev.”

So begins the official obituary of A. N. Tupolev, Honorary Fellow of the Royal Aeronautical Society, whose work in aviation began as a pupil and colleague of N. Ye. Zhukovsky, the father of Soviet aviation and the founder of TsAGI, the Central Aero-hydrodynamical Institute.

Tupolev's designs ranged from the small light ANT-1; the first Soviet all-metal passenger aircraft the ANT-2 to such designs as the ANT-25 which in 1937 made the first non-stop flights across the North Pole to the USA. There was the ANT-6 which landed at the North Pole in the same year; this was a version of the TB-3 which made a great contribution to heavy bomber design. Twice in his career Tupolev designed and built the largest passenger aircraft in the world—the “Maxim Gorky” of 1934 and the Tu-114 of the late fifties. His work in the field of jet design in both the military and civil field is known by designations such as Tu-104, -124, -134, -154 and the Soviet SST the Tu-144 on the civil side and the Tu-16, -20 and -22 on the military.

A. N. Tupolev was a determined man, who never became a Communist party member—although few active members can have served party and country better than he. Like another famous designer, Polikarpov, he spent some time in Stalin's day working in a closed State Security controlled design establishment. In 1945 when some US B-29 aircraft force landed in the Soviet Far East, Tupolev and his bureau dissected the aircraft, prepared drawings and produced the Tu-4. It is facile to dismiss this effort as a Chinese copy. The Soviet aircraft industry had suffered the enormous upheaval of evacuation and dislocation during the war. It was necessary to freeze many of its designs and techniques in order to get the massive production flow needed from the available resources. This

Tu-4 work gave the industry the chance of putting itself right back into the forefront of design and production of large military aircraft, their engines and electronics. Further the Soviet Air Force was able, without loss of time, to train and lay the foundation of a modern strategic air force and the design of the early jet bombers and the Tu-16, as the Tu-4 replacement, and of the Tu-20 (Bear) was proceeding. Tupolev was the natural and most qualified choice to take on this Tu-4 programme.

It is also important to realise Tupolev's influence on many Soviet designers over the past 50 years; many passed through his bureau or under his influence—Ilyushin, Myasishchev, Yakovlev, Petlyakov, Sukhoi and more recently his own son, Aleksei, who now presumably will head the Tupolev bureau. It was a happy turn of fate that he was spared to take part in the celebration of fifty years of his bureau; again at the end of October to receive his third Gold Star of the Hero of Socialist Labour and finally to receive the news of the award of a State Prize for the Tu-134.

Mark Gallai, the Soviet test pilot and author, describes in his *Tested in the sky* the first flight of 002, the second Tu-4. He noted how one figure, apart from the rest of the official onlookers, walked determinedly to the point where he estimated that the aircraft would unstick on its take-off.

“It was A. N. Tupolev. He had reached the place where he wanted to be, there he stopped—a thick-set, slightly stooping figure with his General's cap pulled down over his eyes. In my life I have hardly met a man who was so little concerned about the impression he made on others. Perhaps this was one of the reasons that the impression that he actually made was so very strong . . . .”

“As we reached the end of our landing run we came up to Tupolev standing there all on his own. While we had been in the air, he had gone to the place where, according to his estimate, we would complete our landing run. So it was. It seemed that to foretell accurately (at any rate in the matter of aviation) was the special skill of this old man.”

Gallai tells of the many legends which grew up around Tupolev—how once he looked at another designer's aircraft and predicted exactly the place where the airframe would fail, as it did. Again how, having looked through a sheaf of calculations which led to the estimated top speed of a particular aircraft, Tupolev at once came out with another figure, an estimate of course, which was the one found later on test flights.

As a man, A. N. Tupolev, had a courteous, kindly and friendly approach. Only once did I see him lose his affability—when in the early sixties he declined to talk about the recently announced Tu-144 design. I remember better his delight and admiration at the formation aerobatics of the RAF Hunters at Marham in 1956. His admiration was most sincere and he passed it on to his companions, Khrushchev and Bulganin, who had asked him his opinion of the flying. He also liked a joke and I recall his obvious delight when we shared a particularly succulent crayfish dish at a reception in Moscow in 1956—we had “found” it in circumstances which suggested that someone else had hoped to reserve it!

He was a really great character of aviation, and it is fitting that the Royal Aeronautical Society honoured him by giving him Honorary Fellowship. *F. J. French*