

JOSEPH WILLIAM GOTTSTEIN - 1911-1971

LIFE HISTORY

JOSEPH WILLIAM GOTTSTEIN was born at Ipswich, Queensland, on 3rd November, 1911, as the eldest son of first generation immigrants.

His father, Wenzel Ignaz Gottstein, came to Australia about 1909 from London where he had settled some years earlier after leaving his native town of Hohenelb in Bohemia, then part of the Austro-Hungarian Empire. He took employment in the railway workshops at Ipswich as a fitter. Shortly after his arrival in Australia, in January 1910, he married Jeanne Kersbergen, a native of Holland, to whom he had become engaged in London. In 1913 he moved to Brisbane to establish his own business, a small engineering workshop that served local industry.

After Bill Gottstein's parents moved to Brisbane, he attended first the East Brisbane State School and later the Brisbane Boys Grammar School where he successfully completed the Junior Certificate. Twin brothers Frank and Edward were born in 1924.

At the age of fifteen, Bill left school and joined the Queensland Forest Service in Brisbane as a cadet forest officer. He was attached to the wood technology department where his first mentor was Mr Charles J J Watson, an eminently practical man with a deep understanding of the relation between forest trees and the properties of the timber derived from them, and Bill throughout his life acknowledged the great debt he owed to "Charlie" for the valuable training that he received from him.

Bill Gottstein quickly established a reputation for hard work and an ability to see and carry out practical ways for tackling any problem that was thrust his way. One of the Service's tasks was the evaluation of properties of the many Queensland timber species to ascertain their possible industrial value, a project that contributed valuable material to the book by E H F Swain "The Timbers and Forest Products of Queensland". Physical facilities were often rudimentary, but Bill Gottstein even at that time was not one who would abandon a problem because he could not get the equipment required. Thus, in some preliminary work, densities of air dried specimens were determined with quite adequate accuracy by a simple immersion technique, and toughness by working out a reproducible system of jumping onto a standard specimen, from a standardized height!

Bill Gottstein's engineering education started perhaps at the age of five years when, his parents having left him alone for a short while, he drove the family car for the first time, ending up in the tool shed. In his father's workshop he found an opportunity for developing his very great manual ability and skill, channelling his intuitive understanding of the workings of intricate machinery into more precise technical knowledge of the underlying engineering principles.

It was at this stage of his life that he learned workshop practice, that he became thoroughly adept at using tools and gadgets, that he acquired skill as an expert welder, and that he perfused himself with such detailed and comprehensive knowledge of engines, and of motor cars in particular, that throughout his life there was a never-ending queue on his doorstep of friends and colleagues who sought his help in diagnosing - and often fixing - troubles that occurred with their cars, lawn mowers, washing machines, motor boats and other mechanical possessions and that often had defied the experts.

However, Bill's interest was not confined to things mechanical. He was a nature lover and it is reported that he concerned himself at an early stage with insects and other small creatures. It is probable that he was greatly influenced during this period by his maternal uncle, Mr Louis George Kersbergen, who held a science degree and was then a teacher at the Brisbane Teachers' Training College. Mr Kersbergen may well have helped him to develop his innate scientific curiosity which was to determine so much of the course of his life..

Bill's formal education was acquired with a considerable effort and struggle. Having left secondary school at the age of fifteen he completed the Queensland Senior Certificate (matriculation) two years later by evening studies. Some years hence he was to enrol as a part-time student at Queensland university, being advised by the Forest Service to take Science although left alone he might well have selected engineering, which was his first love. However, the science course introduced him to new fields of knowledge which were to stand him in good stead during his later career. In his first-year biology course he discovered his aptitude for recognizing, classifying and identifying botanical and zoological material and laid the groundwork for his reputation, sustained throughout his life, as an expert at identifying timber species. He graduated Bachelor of Science in 1940, with chemistry as his major subject.

While studying part-time, Bill Gottstein continued with the Queensland Forest Service as a cadet, and later as an assistant (investigations). He was active in most fields of forest products research and development, including wood structure and identification, plywood and gluing and general utilization problems, but his major work was in seasoning and preservation. Summaries and progress reports of seasoning experiments published in the Queensland Forest Service monthly circulars and newsletters testify to this early phase of his professional career.

In 1935, not long after starting his university studies, he suffered the tragic loss of his father as a result of an automobile accident. His mother, injured in the same accident, was to die five years later.

This happened during the blackest period of the great depression, when Bill's modest salary had already been cut back by the negative cost-of-living allowance. It fell to him to assume responsibility for his mother and two younger brothers, aged only 11 at the time. As the family's income was derived entirely from the small machine shop that had been built up by Mr Gottstein senior, Bill helped with the management of this business to ensure its survival. The next years were busy ones indeed for him, cumulating the tasks of running a business, holding down a full-time job with the Forest Service and at the same time studying part-time towards his university degree.

However, these difficult years were not without their benefits for Bill's later career. He gained most valuable experience in business practice, apart from perfecting his technical knowledge by carrying out planing, milling, shaping, lathe and small fabrication work. Selecting a 1925 model Chevrolet used car motor and installing this in a friend's 26 ft launch, complete with underwater radiator and overhead silencer proved no problem to Bill. From this came the joys of boating on Moreton Bay and an introduction to the underwater habits of marine wood borers.

Those who knew him at the time report on his skill as a motor cyclist - presumably he needed his motor cycle to get around quickly between his various jobs - and many a hair-raising story has been told by friends whom he took for memorable rides on the pillion seat. In later years, he was known as a first class motor car driver.

It seems that in spite of the heavy demands on him Bill still managed to take some time off to take care of his personal interests. In 1943 he married Patricia Braidwood who was to accompany him for the remainder of his life, sharing his successes and vicissitudes and providing the home environment and the understanding from which he drew the strength for his amazing vitality and activity in his work.

When Bill Gottstein graduated in 1940, the second world war in Europe had already taken a sinister turn, and the Australian economy was being placed on a war footing. In April 1941, he was seconded to the Engineering Department of the University of Queensland as Technical Officer under the Professor of Engineering to carry out testing, research and extension work on producer gas and associated problems at the fuels laboratory, a task of vital importance to ensure continuation of automotive transport during the emergency. In 1943 he became an officer of the Queensland Government Producer Gas Committee where he was responsible for secretarial, liaison and advisory duties, at the same time continuing his technical work. By this time, the war had spread to the Pacific and for a time Australia was directly threatened. General McArthur's headquarters had been transferred to Brisbane which had become an important staging area for the not-so-distant front in New Guinea. It will never be possible to assess just how much Bill Gottstein's work in helping to conserve petrol supplies and maintain motor transport running contributed to the Allied war effort during these critical years.

Towards the end of 1943 things began to look a little brighter. By this time, Messrs Stanley A Clarke and C Sibley Elliot of the Division of Forest Products, C.S.I.R., who had known Bill Gottstein for some years as a result of their contacts with the Queensland Forest Service, were actively trying to persuade him to join the Division's Seasoning Section where George W Wright was carrying out almost single-handed a heavy program of important experimental work. Although Queensland was most reluctant to lose his services, Bill was seconded to the Division of Forest Products in March 1944. Finally, after lengthy negotiations he was permitted to resign from the Queensland Forest Service early in 1946 and joined C.S.I.R. on a permanent basis as a Research Officer.

Thus began a period of twenty-six years of scientific productivity which has had profound and lasting effects on innumerable individuals, on the Division of Forest Products, on C.S.I.R. and later CSIRO, on international organizations and on the timber industry in Australia and many other countries.

In his early years in Seasoning Section Bill was second-in-charge under the late George Wright. When Alan Gordon, officer-in-charge of the then Veneer and Gluing Section, left CSIRO for New Zealand in late 1954, Bill Gottstein became Section Leader. In late 1967 after Ray Turnbull's appointment to London as Chief Scientific Liaison Officer the Timber Conversion Section, combining the former Utilization, Seasoning and the Plywood and Gluing Sections was formed under his leadership.

Late in 1965 Bill Gottstein was appointed by the Executive of CSIRO as a member of a Committee of Management charged with directing the activities of the Division of Forest Products, under the Chairmanship of the late Dr Wilby E Cohen, pending the appointment of a new Chief to replace the late Dr H E Dadswell whose untimely death in 1964 had left the Division leaderless. After the appointment of R W R Muncey to this position, Bill served on several occasions as Acting Chief during Dr Muncey's absences overseas.

It would be impossible to encompass, in any brief document, Bill Gottstein's manifold contributions to timber science and industry. His knowledge was so vast, the breadth of his talents so wide, and his production of ideas so prolific, that his real influence extended immeasurably beyond that achieved through his publications and formal lectures. He was equally at home in the laboratory, the workshop, and the industrial plant; he was equally outstanding in discussions of theoretical scientific problems as in dismantling and repairing sophisticated equipment with his own hands, and his warm and generous personality enabled him to communicate as readily with the company executive as with the yard labourer. Wherever he went, he imparted to others his enthusiasm and penetrating interest, guiding those he taught to reason out the solution for themselves rather than telling them.

Bill Gottstein's early work in the Seasoning Section of the Division of Forest Products was concerned with investigations of sawdust cement, woodwool and sawdust-resin combinations for the manufacture of building boards and other structural applications, and he wrote up this work in reports and publications between 1947 and 1950. However, the pressing tasks then confronting the Section decided the leader, George W Wright, to entrust Bill almost immediately with a wide variety of subjects, ranging from sawmill studies to kiln design and to the drying of timber in organic vapours. As early as December 1946, less than a year after he joined C.S.I.R. on a permanent basis, he took over in an acting capacity some of the duties of Mr Wright while the latter was acting for Mr R F Turnbull as head of the Division's Utilization Section. In 1949, Bill Gottstein was acting Section Head for over five months during George Wright's absence overseas.

The application to seasoning problems of Bill's practical engineering knowledge and thorough understanding of drying thermodynamics was soon to bear fruit. One problem that had occupied the Section for some years was the application of the idea of predrying hardwoods to Australian conditions by means of a simple, practical and efficient design. The answer came in 1949 when the principle of the multiline, reheat predryer was conceived by J W Gottstein and L J Brennan. They thoroughly tested this principle in the laboratory and proved its usefulness. Subsequently, predryers were developed and promoted by these officers and G W Wright and rapidly adopted by the timber industry.

Another landmark of these years was the development of the veneer screen dryer, a unit that has proved its worth for small and medium sized veneer production plants in Australia over the last twenty years. The design of this unit, elaborated in collaboration with Mr Denis M Cullity who was then a member of the Division, and first published in 1955, depended on a thorough study and understanding of the aerodynamic theory of low speed air flow which anticipated work that was being carried out in Europe and led to significant improvements of commercial kilns in later years.

Many testimonials and financial donations received by the Division from industrial companies that had applied and benefited from Gottstein's work bear witness to the excellence and to the economic value of the results he obtained. They also reflect the outstanding success of his industrial consultant work and field liaison studies which contributed greatly to the modernization of the Australian timber industry and elicited many expressions of high appreciation.

During the early years of his work in the Division, other Sections became quickly and increasingly aware of his capacity to assist with problems ranging over practically the whole field of forest products. In the words of S A Clarke (1955) "Gottstein (was) remarkable for the breadth of his knowledge on many aspects of wood utilization, and we have used his services freely to help us out in a number of Sections. He has always been particularly helpful to other officers of the Division, and many of his suggestions have ultimately been developed to the credit of other officers".

It was thus logical for Bill Gottstein to be appointed Acting-in-Charge of the Division's Veneer and Gluing Section when the Section Head, Mr Alan Gordon, was absent on furlough for three months in 1952. This temporary appointment led to one of the most productive and fruitful enterprises in the history of the Division of Forest Products which was to result in Bill Gottstein becoming a recognized world authority in the field of composite wood.

When Mr Gordon left CSIRO in 1954, Huntly Higgins took over the Veneer and Gluing Section in an acting capacity but soon became interested in paper physics, and later transferred to this work. The activities of the Veneer and Plywood Section were greatly reduced until following lengthy negotiations with the (then) Australian Plywood Board, it was agreed that the industry would pay the Division a substantial

annual grant and that the Division, in return, would expand its research work on veneer and plywood. Bill Gottstein was appointed head of the Plywood Investigations Section as it was renamed and largely due to his efforts, his organizing ability, his own and his staff's technical achievements, and his unique gift for establishing harmonious human relations with persons of widely varying background, this agreement led to a most profitable association which was to continue until Bill's death and beyond.

It must be remembered that when Bill Gottstein took over Plywood Investigations, he was not an expert in this field. Quoting once more the words of Mr S A Clarke, "His vision of possible means of improving practice in the industry, and his grasp of principles involved, have resulted in work that I believe can be classed as brilliant," and again, "Carrying out work of this type for industry is not easy because there is always a tendency for an industry supplying money for research to want to dictate what work shall be done. We have been able to avoid this trouble with the plywood industry, largely because of Gottstein's ability to determine what are the basic difficulties, not the apparent ones, and to give the industry the help it needs in overcoming these problems."

One outstanding example of his achievements was the elucidation of the engineering science of veneer peeling. This resulted from his idea to establish a system of reference measuring stations on veneer lathes which he promptly converted into a practical procedure with the collaboration of Mr Barry McCombe of his staff.

However, his contributions included every aspect of plywood production. He became an acknowledged authority on subjects ranging from the theoretical physical chemistry of adhesion to the rheology of wood in plywood production, from the thermodynamics of drying to the technology of press operation, and in later years he acquired a reputation as one of the outstanding world experts on the manufacture of particle board. Many major Australian industries would not make final investment decisions on choice of equipment or manufacturing procedures without first asking Bill's advice, and his name became a byword in every Commonwealth State and Territory where an active composite wood industry was operating.

Bill's ideas came with such frequency that often the next one would occupy his mind before he had had time to fully exploit and - more importantly - to write up his previous one. This is perhaps the one regret associated with his professional career, that he did not leave much written material to pass on his wealth of knowledge other than through the minds of those who worked with him. Even so, he wrote or - more often - contributed to some fifty reports, scientific papers and patents, apart from probably more than a thousand technical letters to individuals and companies.

Bill's particular strength was his ability to synthesise many seemingly unconnected facts into a consistent and provable scientific theory, and then immediately to see and carry through the practical engineering implications. In his characteristically modest way, this was usually done by inspiring a team, often letting others reap where he had sown. At heart he was always an engineer - a result, perhaps, of his early association with basic mechanical skills in his father's engineering business. He had an insatiable curiosity and would never take anything for granted, would never rest until he had thoroughly understood the problem in hand and assimilated the elements involved. Whether it was a matter of adjusting the airflow in a complex particle drier when he would spend many happy hours crawling around the inside of the machine in his boiler suit to install thermocouples, or of buying stockings for his wife when he had to investigate every detail of the intricacies of mesh and denier to find out how he could choose the best quality at the most advantageous price - Bill always went right to the bottom of the thing with an uncanny ability to see and grasp its essentials.

He was always ready to help and his help was given so naturally, so generously and so unhesitatingly that his friends must admit that they often exploited his good nature. It might mean giving up his weekend to help a colleague finish an urgent experiment or report, working all night in a factory to put a machine in good running order, or getting up at 3 a.m. to fix a motor car engine for a friend who wanted to go on holidays - Bill was always happy to be of service. And it was indeed an experience to work with him on any practical job, watching how things just naturally seemed to click into place under his capable hands and listening to his explanation, spiced with well-chosen profanities, of just how the work had to be done, and why.

He had a deep liking for music and was an active concert-goer until his work started claiming more and more of his spare time - then he built up an excellent collection of records and built himself a very high quality radio and amplifier in the days when high fidelity was still the apanage of the genuine music lover who had the ability of constructing his own equipment.

During their first years in Melbourne, Bill and Pat Gottstein built the house in Ringwood where they were to live for the remainder of his life; they built it entirely themselves, starting with the design drawings prepared by Bill right up to the fixing of the appliances, having driven in innumerable nails in between.

Bill Gottstein, in speech and manner, was as typical an Australian as they come. Over six feet tall, well-built but slim, blonde and with blue eyes, he was an impressive figure in any environment. But in his manner he was totally unassuming and immediately put people at ease - so much so that they sometimes underestimated his very penetrating analytical and critical ability. He dressed extremely well when he chose to do so, but was happiest in overalls or old, grease-stained

working clothes, delving into some engine. This, indeed, was his dearest hobby: he had a well equipped workshop in his home, and he has been known, on a number of occasions when he had to contend with some particularly worrying problem, to pull down a motor car engine and reassemble it by way of relaxation. Among his friends and associates he is perhaps best remembered, in a vestimentary sense, for his braces which he would rarely risk to dispense with (so much so that his staff presented him with a pair of plywood braces at some festivity), and for his one or two cardigans, worn on top of each other, which would not come off unless the temperature rose above 80°F.

The climate, in fact, was one of Bill's major objections to living in Melbourne. Very much a Queenslander, he would never cease hankering for the land where temperatures never dropped below summer levels, and his preferred "comfort condition" was 80°F and 80% relative humidity. His first letter written to Mr C Sibley Elliot in 1943 about the possibility of his joining the Division of Forest Products bears the postscript, "I trust your climate is slowly becoming a little less miserable!"

It was thus not easy to move Bill Gottstein to undertake his first overseas journey in 1959 when Mr S A Clarke decided it was time that he should see the rest of the world. On that occasion, Bill travelled to Europe, North America and Japan. His reputation had already preceded him, but many of his contacts overseas agree that the impact of his personality far exceeded the expectations they had from reading his publications or talking to his colleagues. He was quickly recognized, by those capable of appreciating it, as the outstanding scientist and engineer he was, and his counsel and services in the international field were quickly and increasingly sought and appreciated by sister institutions, by industry, by equipment manufacturers and by international agencies such as the Food and Agriculture Organization of the United Nations. Being an excellent observer, and incidentally a first-class amateur photographer, he brought back from his travels a wealth of information which he freely and competently passed on to his colleagues.

In 1963 he participated on behalf of Australia in the FAO international consultation on wood-based panel products in Rome, and early in 1964 was invited by the same organization to travel to Chile for a one-month senior consultancy on production of veneer and plywood under the auspices of the Chilean Instituto Forestal.

He is vividly remembered by Chilean engineers who worked with him for his down-to-earth, friendly and practical way of teaching by donning overalls and demonstrating the job himself, and for the inspiration he provided by his enthusiasm and willingness to share his breadth of knowledge. He not only made his team work hard, as he was also wont to do on field assignments in Australia, until the small hours of the morning, but he made them thoroughly enjoy it. His warm smile and easy manner enabled him to communicate readily across language barriers, and his symbiotic ability with machinery was such that he needed no interpreter to converse with a competent Spanish-speaking mechanic when it came to matters of veneer lathe operation.

Bill Gottstein went overseas on several other occasions, the last extended trip being in the year before he died, when he once again travelled around the planet. He became well-known among senior wood technologists and engineers in many countries, and his name is mentioned with esteem and affection in the many places he visited all over the world.

Bill's very great contribution to CSIRO and to the Australian timber industry was fully recognized by the successive Chiefs of the Division of Forest Products and by the Organization's Executive and was rewarded to the extent possible within the existing framework. At the time of his death, he held the rank of Senior Principal Research Scientist and would undoubtedly have risen further before his retirement.

Even though this gained him a measure of financial security - in contrast to the struggle of his early years - his private life was not an easy one. In spite of his robust physique his health had never been very good, and in 1955 he became seriously ill and had to remain on sick leave for several months. It is characteristic of the man that while in bed he continued theoretical design calculations, and in his spare time repaired all the family's watches, and even the heirloom grandfather clock! In fact, while in hospital, so the story goes, he fixed up his own blood transfusion equipment which had become snarled and which the nurse was unable to unravel.

The year 1956 saw the birth of Peter, the only child born to Bill and Pat Gottstein. By the time he died, Bill seems to have succeeded in passing on some of his enthusiasm to his son, but it was his constant regret during his last years that he could not devote more of his time to his family, and he was looking forward to the always-deferred holidays when he could enjoy their company. Too often, unfortunately, these holidays were interrupted by friends who had some mechanical trouble in their plant that only Bill could fix - and of course he never refused.

His name was truly a byword throughout Australia for more than a quarter of a century, not only in the timber industry but also in many State and Commonwealth services and in industrial and professional associations. He spent countless days, and nights, improving, innovating, and devising manufacturing processes in industrial plants. But he was also often instrumental in settling problems of administration and institutional policy.

His keen mind enabled him to see through to the core of any human or organizational problem almost immediately and perceive the possible solutions to it. He would then apply all the resources of his personality towards having the best solution accepted by all concerned, and knew how to use his considerable charm, how to be firm, and how to apply his gift for friendly bullying - and usually he managed to bring matters to a harmonious conclusion. On such occasions, he much preferred to remain inconspicuously in the background, being content to be the grey eminence or the power behind the throne, and to let others take the limelight.

Bill Gottstein's last journey took him to New Guinea where on earlier visits he had spent many happy days in the forest and working around veneer lathes, driers and presses. On his last day, the 25th March, 1971, he was particularly happy to visit the klinki pine forest at Bulolo which he loved, and to revel in the temperature and humidity conditions that most appealed to him. He was watching a demonstration of felling a big klinki pine tree and intended to observe its impact on the ground to understand certain technological problems that were bothering him. He was totally engrossed in attempting to photograph the fall of the tree and did not realize that it had dislodged a second tree to which it was connected by a liane. This second tree fell at right angles to the first, in a totally unexpected direction, and struck him. He was killed instantly.

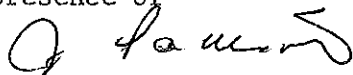
To those who knew him, Bill Gottstein was more than a great scientist. He was a great man, a man of vast knowledge and deep humility, a dependable, secure and generous friend and a teacher whose genius, kindly guidance, whose fatherly encouragement and whose enthusiasm will never be forgotten by any one who had the privilege and the good fortune to serve with him.

Signed by

the Founder of the
Joseph William Gottstein
Memorial Trust Fund



in the presence of

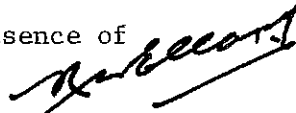


Signed by *Thomas Cullen*

the Founder of the
Joseph William Gottstein
Memorial Trust Fund



in the presence of



Signed by *Robert William Roy Muncy*
the Founder of the
Joseph William Gottstein
Memorial Trust Fund



in the presence of

