The Palimpsest

NOVEMBER 1942

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THE PURPOSE OF THIS MAGAZINE

THE PALIMPSEST, issued monthly by the State Historical Society of Iowa, is devoted to the dissemination of Iowa History. Supplementing the other publications of this Society, it aims to present the materials of Iowa History in a form that is attractive and a style that is popular in the best sense—to the end that the story of our Commonwealth may be more widely read and cherished.

BENJ. F. SHAMBAUGH

THE MEANING OF PALIMPSEST

In early times a palimpsest was a parchment or other material from which one or more writings had been erased to give room for later records. But the erasures were not always complete; and so it became the fascinating task of scholars not only to translate the later records but also to reconstruct the original writings by deciphering the dim fragments of letters partly erased and partly covered by subsequent texts.

The history of Iowa may be likened to a palimpsest which holds the records of successive generations. To decipher these records of the past, reconstruct them, and tell the stories which they contain is the task of those who write history.

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THE PALIMPSEST

EDITED BY JOHN ELY BRIGGS

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Daniel Walter Morehouse

Herbert Spencer once asserted that capacity to work according to plan is what distinguishes animals in the scale of intelligence. Man is superior to other animals in that he can foresee more remote consequences of present action and therefore plan farther in advance. That which is true of the race applies likewise to the individual, and the mark of an intelligent man is his ability to plan the course of his life with the longest perspective and work most consistently toward his preconceived goal.

This generalization not only epitomizes but evaluates the life of Daniel Walter Morehouse, one of Iowa's most noted citizens. Furthermore, it may be truthfully said that he was a distinguished scientist and educator, as well as a sincere and devout churchman and a true Christian gentleman. The nobility of his character was widely recognized, and he was ever a loyal friend, confidant, and adviser of the many who knew and

loved him well, and who now so faithfully cherish his memory. What more need be said of any man?

Daniel Morehouse was born in a rough cabin at Mankato, Minnesota, on February 22, 1876, sharing the birth date of the "Father of his Country", on the centennial year of national independence. Soon afterward he moved with his parents to Grant County, South Dakota, where he spent his childhood and received his early education.

A rigorous climate and pioneer living provided him with a remarkable physique and a constitution which later enabled him to perform prodigious quantities of work, to the admiration and dismay of his friends and colleagues. His vitality was such, however, that he was frequently tempted to overtax his bodily strength, especially in later years, to the detriment of his own physical well being.

Education early became his ruling passion. His eighteenth year found him teaching country school in the vicinity of his home in South Dakota. In the following year he entered Northwestern Christian College at Excelsior, Minnesota, where he studied for two years before transferring to Drake University in 1897. He little dreamed then that he would be associated with that institution during the remainder of his life.

His student days were normal. While busily engaged with various college activities, he was also confronted with the more prosaic problems of earning his college expenses. He "rose to the dizzy eminence of steward of a boarding club", and worked in a clothing store. This latter experience was significant, for as a man he was always immaculately dressed and made an impressive appearance in public.

The attractive personality of Daniel Morehouse was evident while he was in college, for it was agreed that "he was a likeable chap". He was a member of the Athens Literary Society, held various class offices including the presidency, and played center on the football team of 1898, which claimed the championship of six States. The horseshoe that became a talisman of victory at Drake was originally found by Morehouse on the morning before the Thanksgiving Day game in which Drake beat Grinnell eighteen to sixteen and thereby confirmed the superiority of the 1898 team. In later years his interest in athletics never waned; he was a member of the faculty committee on athletics, he was influential in building the Drake field house, and he was active in promoting the famous Drake Relays.

It is said that his interest in astronomy began "when a neighbor asked him to translate some

Latin references in an astronomy text". Young Morehouse not only translated the material, but kept the book to read about the movements of the stars and their relations to the lives of men. Perhaps the numerous events of major astronomical importance which occurred during his early manhood also helped to awaken his devotion to astronomy which grew in him progressively as the years passed.

He graduated from the Drake college of letters and science in 1900, receiving the Bachelor of Science degree. He must have been a good student for in the following autumn he began teaching physics and astronomy at his Alma Mater, which duty, except while absent for graduate work, he never entirely relinquished. In later years, when his time and energy were almost wholly absorbed by administrative duties, he was yet at heart primarily interested in astronomy and teaching, which were ever his foremost joys. "I believe he was never happier than when in his observatory," said his friend Dr. Philip Fox, "though not infrequently these happy hours were stolen from the few he should have allowed himself for rest."

He continued to work for his higher degrees. In 1902 his study at the University of Chicago earned him the Bachelor of Science degree from

that institution, and in the same year Drake gave him the Master of Science degree. His character and scholarship being well demonstrated, he was promoted to the rank of professor of physics and astronomy. With this assurance of a successful career he married Myrtle Slayton of Des Moines on June 9, 1903, to which union three children were born — a son Charles and two daughters, Vega and Frances. Even in the naming of his children his interest in astronomy was evident, for Vega is the name of one of the brightest stars in the firmament.

During many summers he worked toward his doctorate, principally at the University of Chicago. While doing graduate work at the Yerkes Observatory in 1908, he discovered the famous comet which bears his name. This event won for him the distinction which opened many doors. The academic year 1911-12 found him continuing his graduate studies and serving as an instructor in the University of California, where he received his Doctor of Philosophy degree in 1914. His thesis was "The Orbit of the Seventh Satellite of Jupiter".

Throughout the remainder of his life, he received other honorary degrees and some notable distinctions. He was a member of Phi Beta Kappa and Sigma Xi. Later he became a member

of the American Astronomical Society, the British Astronomical Association, the Royal Astronomical Society, and the Iowa State Academy of Science, of which he was president in 1921-22. The honor that is the best testimony of his ability and reputation as an astronomer came in 1930 when he was elected chairman of the astronomical division of the American Association for the Advancement of Science. Though he was not primarily a research astronomer, Dr. Morehouse served astronomy well by creating among his students and friends a deep and abiding interest in the subject. This does not mean that his own work was superficial, but only that he approached astronomy from a different viewpoint from that of the research scientists. His election to the national chairmanship in his field attested that astronomers respected him as much as his friends and students loved him. Characteristically his address as chairman to his scientific colleagues was on "Astronomy's Contribution to the Stream of Human Thought". In 1932 Butler University conferred upon him the honorary degree of Doctor of Laws.

Dr. Morehouse's life was unique in that he was a man of many careers, and it might truthfully be said that he was almost equally successful in all of them. He began as a teacher, and he remained a

teacher at heart even after becoming an administrator. During the early period of his career he carried a heavy teaching load — in some years giving courses in mathematics as well as physics and astronomy. He taught astronomy in such a way as to fascinate students, avoiding the highly mathematical and theoretical aspects of the subject that would interest only specialists. As an executive he never entirely gave up his teaching. Perhaps he had only a small class or two in astronomy or a seminar, but all the while he wanted to be in direct contact with the students.

In 1919 he was made dean of men at Drake, a position he held until he became dean of the college of liberal arts in 1922. A year later he was chosen president of the University and continued to serve as dean of liberal arts until 1930. His tenure as president lasted nearly nineteen years, for he served as acting president in 1922 and held the office until his death in 1941. Dean Morehouse, as he was always respectfully called by those who knew him best, was an appellation he never entirely lost, even while president. Under his direction the University prospered greatly, both from the material and the academic standpoint. His administration began soon after the dedication of the Drake University Municipal Observatory for which he was responsible, but

the new stadium, field house, women's dormitory, Cowles library, and men's dormitory and student union were built while he was president. The completion of each new building was in turn a proud and happy moment in the life of President Morehouse. Each is a substantial testimonial of the time and energy spent in behalf of the University by its courageous and tireless leader. Each is also the evidence of his ability as a business man in building up the physical resources of his institution.

Both as an executive and a teacher, he stood high in the councils of educators the country over. For years he was a member of the State Board of Educational Examiners, and he was active in the Iowa College Presidents Association. He served as chairman of an advisory committee appointed by the North Central Association of Colleges and Secondary Schools in 1938. Most persons will remember Dr. Morehouse as an astronomer, for his astronomical career was brilliant and his reputation was wide. As a student he associated with and was respected by many of the greatest American astronomers of his time. His work as a teacher, comet discoverer, and builder and director of the Drake Municipal Observatory were of a high order. Lack of time hampered his research and publication. How reluctant he must have

been to allow more pressing duties to crowd out those things which were most interesting to him.

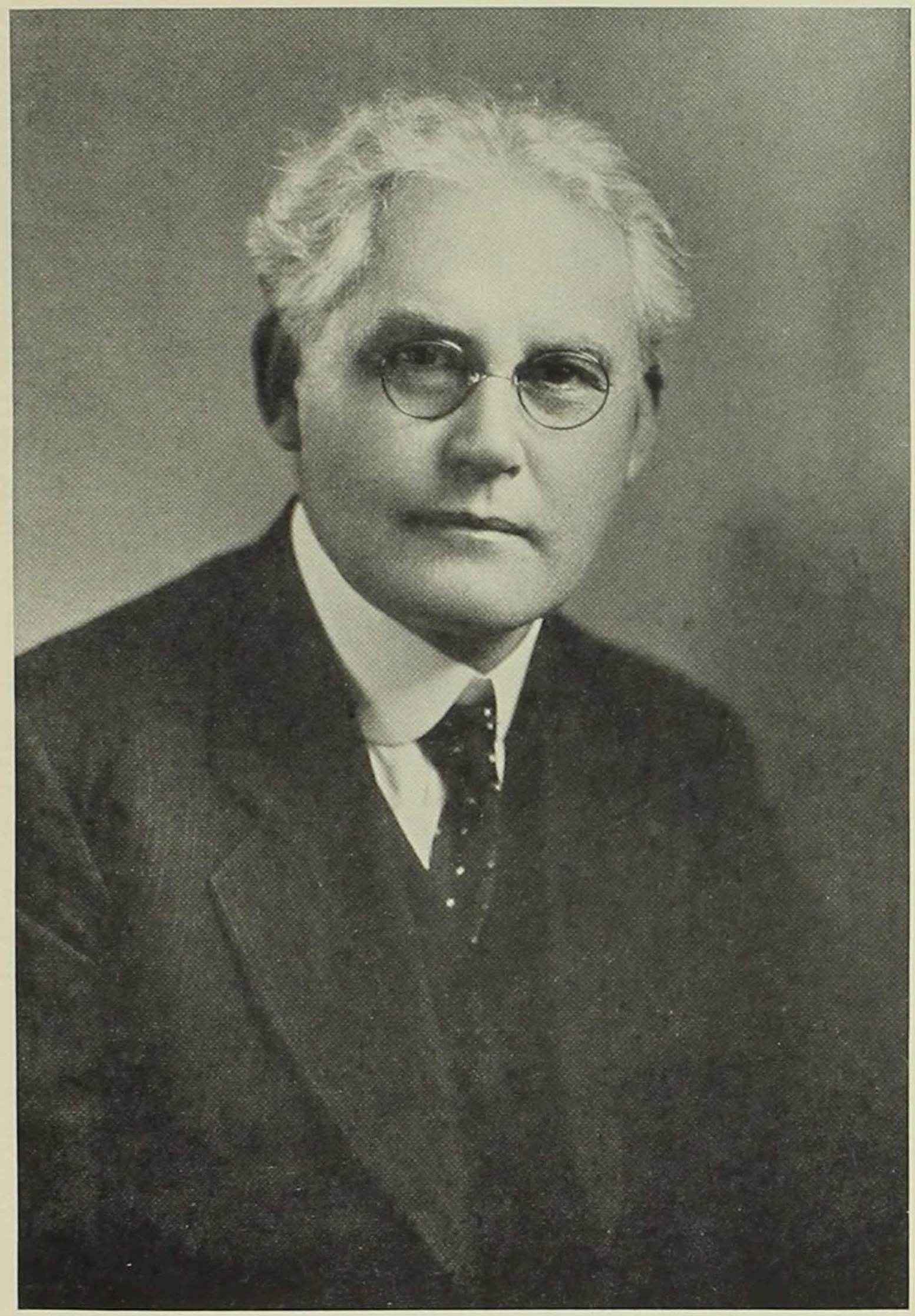
Even so, he found time to "observe" and to keep in close touch with things astronomical. Among his many outstanding experiences were the four total solar eclipse expeditions in which he participated. These were to Matheson, Colorado, in 1918; to Catalina Island in 1923; to Giggleswick, England, in 1927; and to Island Pond, Vermont, in 1931. While in England he was entertained by many distinguished individuals and honored with an interview in the London *Times*. In Paris he was the guest of the great Flammarion, famous French mathematician and astronomer, and at the University of Heidelberg, Max Wolf, one of the most noted of living astronomers, was his host. He was present in 1934 on the occasion of the pouring of the great disk for the 200-inch telescope mirror at the Corning Glass Works in New York. To one who understood the value of such an instrument this must have been one of the most interesting experiences of his lifetime.

As a popular lecturer on astronomy, few persons were the equal of Dr. Morehouse. He always impressed his hearers. As one put it, "He showed many of us a new heaven and a new earth —a new universe." People who visited his

Municipal Observatory were fascinated by his descriptions of the constellations in the sky. For many years he appeared regularly on the program of the American School of Wild Life Protection at McGregor. Whenever he was guest lecturer at the Adler Planetarium in Chicago, he was always very popular. It was stated by the director that there were more inquiries and requests for his return than for almost any other lecturer. During the summer of 1930 he was guest director of the Planetarium.

In spite of his busy life he somehow found time for astronomical research, and his contributions to the literature in that field were many and varied. Dr. Fox, in the biographical sketch he wrote for *Popular Astronomy,* listed several articles which he evidently considered most important. These indicate the wide range of Dr. Morehouse's astronomical interests. Had he been able to devote his life entirely to astronomy, the products of his research would have been much more extensive.

For his tireless efforts in the field of education, for his advancement of Drake University, and for his many contributions to local improvement he was given the community award by the Des Moines *Tribune* in 1928 for rendering most distinguished service to the city of Des Moines. He had many city associations, being a Mason and a



COURTESY OF DRAKE UNIVERSITY

DANIEL WALTER MOREHOUSE

member of the Prairie Club, the Des Moines Club, the University Club, and Rotary. No doubt his interest in civic welfare weighed heavily with the board of judges, but they remembered specifically his part in establishing the Drake Municipal Observatory in Waveland Park in 1921 and recognized that it was his influence which persuaded the American Association for the Advancement of Science to meet in Des Moines in 1929.

No sketch of Dr. Morehouse's life would be complete without mention of his Christian character and his contributions to the church. He was ever a loyal churchman, devout and unstinting in his service. His zealous work in behalf of the University Church left the influence of his character indelibly upon it, helping to make it one of the outstanding churches of the denomination in America. He also contributed much time and energy to the affairs of the Church of Christ at large, with which denomination Drake University, though nominally non-sectarian, has been most closely affiliated. He was elected president of the international convocation of the Disciples of Christ in Des Moines in 1934, and in the following year he was a delegate to the international convocation in England. While there he was entertained by many prominent persons. At Cambridge he visited in the home of the eminent

English historian, J. Holland Rose, and a photograph taken there was among the most prized mementoes of his trip.

Dr. Morehouse's arduous duties never diminished. On the contrary, his responsibilities only accumulated. This was particularly true of his presidency of Drake University during the years of the depression, when incomes on investments dwindled while expenses tended to increase. The school dared not mark time. New buildings were needed, new endowment had to be secured, and faculty members had to be recruited. All the multifarious duties of management required time, strength, and energy. Many of his most intimate friends felt that President Morehouse was overtaxing himself, but those who knew him best also knew that he would never shirk a duty nor avoid responsibility. "He just wasn't built that way."

As a result, he died too young — at the very peak of his career. Some years prior to his passing it was known that his heart had become impaired, due to illness which left him in a weakened condition. From this he rallied, but never again did he entirely regain his former strength and vigor. He was able to carry on some of his administrative duties, but most of his travel and extra activities had to be curtailed. In September, 1940, he was stricken with pneumonia. His weak-

ened heart made recovery impossible, and he passed away peacefully at his home on January 21, 1941, in his sixty-fifth year.

News of his death spread as a pall over the community and, by means of press and radio, wherever he was known. Evidence of the high esteem in which he was held came in the form of hundreds of letters and telegrams sent to Mrs. Morehouse and the University. The message from John Scholte Nollen, President Emeritus of Grinnell College, is typical. "Dr. Morehouse had a rare combination of good qualities — as an eminent scientist with a gift of administration, and a genius for friendship, and a commanding personality that inspired respect, loyalty, and affection. We can ill afford to lose such a leader in science, education, and religion."

His body lay in state in the Drake University Chapel with a guard of honor composed of students, and thousands of townspeople, students, and friends solemnly viewed the remains. Impressive services were held in University Church. Warm tributes were given by representatives of the many interests with which he was so closely identified in life. Perhaps Dr. Marvin O. Sansbury, representing the church, expressed these sentiments best when he said: "Dr. Morehouse was such a kind, patient, gracious Christian gen-

tleman. To be a Christian had real meaning for him and often he said, 'To be a Christian should be the eternal quest of mankind. The Church is the instrumentality by which men attain this goal. We may come pitifully short of this eternal quest, but the humiliation and disappointment are to those who neglect, or never attempt the way.' Science helped Dr. Morehouse to discern God and he helped many others to find science as one of the avenues that lead to the Almighty. For him, 'Science was perhaps the clearest revelation of God in our Age'."

His ashes have been placed at his request in an urn which rests in a niche in the rotunda of the Drake Municipal Observatory where he spent so many happy hours in study, meditation, and research. In spirit he may now look down from the stars to this place of his handiwork, where he once so reverently looked up into those heavens which declared to him the glory of the God he loved so well.

BEN HUR WILSON

The Morehouse Comet

Some men achieve greatness by excelling in one particular field of endeavor, while others, it would seem, may be noted for the broadness of their living experience which produces a well balanced personality. Dr. Daniel W. Morehouse was one of those rare characters who achieved renown in both respects. While his ability and character would have brought him high honor and distinction in time, there can be little doubt that his discovery of the Morehouse Comet, while yet a young man, was an event which actually "sparked" his life and set him safely upon the highway toward a successful career. It proved, as it were, that tide which "leads on to fortune", not in a pecuniary sense, but rather in the fulfillment of purpose which all men crave. It gave him favorable publicity at the period of his life when it meant much to him. And so, perhaps, if one were asked to point at any single event which marked the beginning of his notable career, it would be the happy accident of discovering the remarkable comet which ever afterward was to bear his name.

While astronomy was the principal field of his

interest, Dr. Morehouse was not primarily a research astronomer. He began his teaching career as a physicist, and much of his energy was later devoted to administrative work as dean and college president. Nevertheless, his enthusiasm for astronomy never abated, and he established an enviable reputation as a popular lecturer on that subject. Even as a student he lived figuratively among the mountain tops where his view of both heaven and earth was unobstructed. His vision and perspective qualified him as a scientist and humanitarian, while his keen intellect, fine appearance, and friendly outlook upon life endeared him to all those with whom he came in contact. Wide as Dr. Morehouse's reputation was among men who studied the stars, he was almost equally well known in educational and religious circles.

During the summer of 1908, D. W. Morehouse was studying as a graduate student in Yerkes Observatory at Lake Geneva, Wisconsin. There he was working in the well-equipped laboratory under such eminent astronomers as E. E. Barnard and Philip Fox. Professor Barnard had charge of the Bruce photographic telescope, and occasionally Morehouse was privileged to use it. This instrument, in reality two photographic telescopes on a single mounting, could be used only under the direction of Professor Barnard. Since he was

doing some special work on the Milky Way, other astronomers at the Observatory refrained from encroaching upon the professor's "happy milking ground" and concentrated their attention elsewhere. By thus avoiding duplication of effort, their studies were likely to be of greater scientific value.

It happened that on the evening of September 1, 1908, Morehouse was asked to photograph a region along the fringe of the Milky Way. "In mid-morning of September 2, 1908", said Dr. Fox, "as I came down from the 40-inch dome where I had been working with the spectroheliograph, I met Morehouse as he came up from his darkroom. There was excitement in his manner and voice, so much so that he scarcely whispered as he spoke: 'Fox, I think I've discovered a comet.' When I asked him if it appeared on both plates he rushed down in the dark room and in a moment returned to report the confirmation."

This discovery, albeit accidental, since astronomers do not spend their time searching for unexpected comets about whose existence there can be no previous knowledge, was a triumph for the young Drake professor due to the highly unusual nature of the comet which was to bear his name. Because "the Morehouse comet proved the most bizarre, most whimsical, most unpredictable of

any heavenly vagrant ever discovered", its changes were recorded with the greatest eagerness by a large body of photographic astronomers in America and Europe. It was especially notable for the fact that during the period of its visibility it traveled from pole to pole, having been circumpolar during many weeks in the fall of 1908. Its course made continuous observation practical for many consecutive hours throughout the night, thus greatly facilitating the exploitation of its photographic possibilities.

At the time of its recognition, Comet C, as the Morehouse Comet was then called, had a long tail, and appeared to be moving rapidly toward the constellation of Cepheus. It soon began to display its whimsical character, demonstrating that no one could confidently predict the shape its tail might take. The first marked transformation occurred between September 30th and October 2nd. On September 29th the tail appeared perfectly normal, but on the next night it displayed unprecedented activities, changing continuously until by October 1st a complete disruption had occurred. Although the nucleus remained as it had been, the tail was gone, and the great masses which had formed it were attached to the coma only by "slender streamers". "Photographs of October 2nd show 3 distinct tails; one broad and

fan-shaped, and two smaller ones. They were all faint and changing slowly."

On October 15th, a second and much larger tail was thrown off, this time in a more violent and explosive manner. Two great condensations appeared in the tail, evidently caused by "the localization of the particles in the tail due to some encountered force". These condensations were on opposite sides of the tail, and moved away from the head of the comet at different speeds. They were gone by October 17th. During the period October 15th to 17th the old curved tail disappeared and in its place "a bright, short, spike-like projection, with one end between the masses and the broad end attached to the coma, formed the new tail." The average speed of the comet while these changes were taking place was about 135,000 miles per hour.

The comet was less active during November, although "by no means quiescent". Other distinctive features began to appear about the middle of the month. Morehouse's photographs taken on the 11th, 15th, and 16th showed an undulating or pulsating form of tail which was explained by two French observers as being caused by a tail composed of two parts, wound around one another in spiral form. The photograph of November 15th revealed slender streamers shooting out from the

main body of the tail with great velocity. These actions impressed one observer with the effect of a slowly revolving pinwheel, and another thought it had the "appearance of a thin white veil draped over a star." By November 18th the comet had attained its greatest beauty. The slender rays that marked the tail appeared to predominate, and the tail itself was broken into waves, with a noticeable dark streak extending back from the head along the north side.

The comet was nearest to the earth in October, and it passed its perihelion on Christmas Day. Had the perihelion occurred in June, the comet would have been a spectacular sight as viewed with the naked eye. As it was, the comet was barely visible to the naked eye about the middle of October and again toward the end of the month, and then only to those who knew where to look for it. Its brightness was irregular, but the comet was genial, for, being blue, it was highly photogenic. In the later months of 1908 it was favorably situated for observation in the northern hemisphere, and during February, March, and April, the southern hemisphere enjoyed the same favor. Actually the comet was visible somewhere from the time of its discovery until July, 1909.

The Morehouse Comet was more exceptional in its actions than in its constituent material. It

was composed of the "poisonous cyanogen element", but this was not very unusual. Other unrecognized ingredients were also present. The spectacular behavior of the celestial visitor, however, attracted the most attention for, instead of assuming a customary tail, the tail appeared in various shapes. During its observed course, the comet maintained an almost parabolic motion. This meant that its period of recurrence was extremely long. Astronomers did not calculate when it would reappear because the course it followed during the period when it was visible gave no clue to the size of its ellipse. The consensus of opinion was that the comet would not be visible again for several centuries.

Astronomers learned much about comets from the strange behavior of this Morehouse maverick, but one of the most important lessons it reëmphasized was that astronomers have yet much to learn about comets. It upset some of the rather "smug theories formulated to account for the more conventional changes of form". The activities of its tail showed, for example, how very complicated and how little understood were the causes of the existence of tails in comets. "Condensations, waves, straight rays, twisted funnels, and numerous unrecognized forms" composed the constantly changing phenomenon. The Morehouse Comet,

said Dr. Barnard, "has shown features that would have singled it out as a very remarkable object, and on more than one occasion it has presented a most extraordinary and unique appearance." The comet gave astronomers sufficient data to keep them busy digesting and interpreting for a long time.

To young astronomer Morehouse went the full credit for discovery. Professor Barnard had discovered sixteen comets before 1892, and he could well afford to support the claim of his pupil to this one, even if it were not the custom to credit the discovery of an unexpected comet to the person actually finding it. In all fairness it must be added that Borrelly observed the comet independently two days later. This comet of the "unstable tail" was given the catalogue number 1908-III because it was the third to pass perihelion in that year. But, as Dr. Fox has so strikingly stated, "with this comet the name 'Morehouse' will go flaming through space for ages". In recognition of his work of discovery, he was awarded the Donahue Comet Medal by the Astronomical Society of the Pacific.

BEN HUR WILSON

The Municipal Observatory

Associated with the inception of most new ideas or institutions is the driving personality of a single individual. But innovations come usually in response to definite needs or a keen desire for the betterment of existing conditions, and the Drake University Municipal Observatory was no exception. Dr. Daniel W. Morehouse was its motivating spirit.

"The longer I live the more I am impressed with the value of dreamers to the world. Those who see visions are the forerunners of every practical accomplishment", wrote a newspaper columnist in Des Moines in November, 1921. "Last week at Waveland Park, Des Moines citizens dedicated the only municipal observatory in the United States, an event so noteworthy that Dean Moulton, the world's greatest living astronomical mathematician, came to speak at the exercises."

Most people who attended the dedicatory services saw little more than a "compactly built, cut-stone building surmounted by a copper dome." Close friends of Dean Morehouse, however, perceived in the structure the realization of a dream that had been cherished for more than twenty

years and brought to fruition through many long hours of careful planning and skillful maneuvering, to say nothing of other longer hours when deep anxiety and discouragement prevailed.

"Many persons have known of the professor's long treasured ambition to have an observatory out where the smoke and noise and vibration of the city would not interfere with his delicate instruments. But probably only those who have tried to look through the big telescope as a street car rumbled by the old science hall on the university campus know how well founded was the need which the new observatory fills", commented Charles Darlington in the Des Moines *Capital*.

When the old science hall was erected on the Drake campus along University Avenue in 1891, one of the architect's worries was what to do with the big telescope. A very serious problem was created by the limited view of the horizon, cut off by nearby trees and buildings. The campus, being almost as "level as the floor", offered no vantage point upon which to erect a building.

To overcome this difficulty, a solid brick pier one hundred feet tall was erected upon which to mount the telescope. This huge column of masonry, forming one corner of the science building and outwardly resembling a huge factory chimney, became the unprepossessing landmark upon

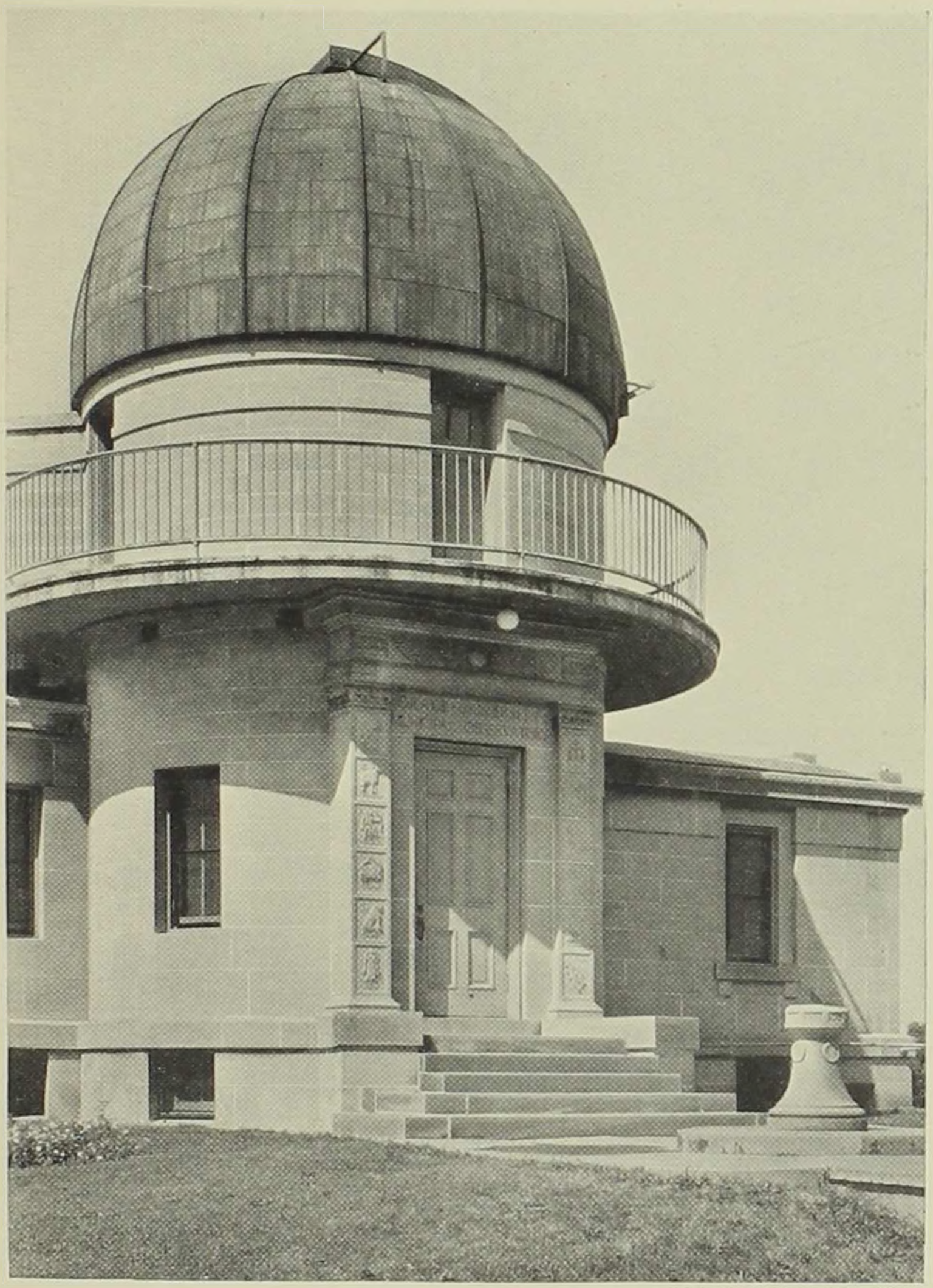
the college campus. It was the butt of many a "quirk and jibe" as well as some criticism, for it added little to the beauty of the campus.

Drake University had devoted much attention to astronomy for almost a decade before D. W. Morehouse joined the faculty when he graduated in 1900. The telescope was a gift of F. M. Drake, the patron for whom the University was named. Other persons had donated additional equipment in the old observatory. Indeed, the early interest in astronomy which had been manifested by the citizens of Des Moines deepened as the work of Professor Morehouse attracted international attention.

He labored under severe handicaps during the many long years when, almost nightly, he climbed the half dozen flights of wooden steps encircling the tower. The worst feature of the old observatory was, perhaps, that the telescope was not sufficiently elevated above the smoke and grime of the surrounding city. Neither did the heavy masonry on which it was mounted prevent troublesome vibrations from the street traffic below, which indeed seemed to be magnified by the movement of the tall tower resting on a base apparently too small for its height. Every tremble seemed to grow as it proceeded upward through the structure, changing "to a miniature earthquake which

caused the telescope to shake like a great palsied finger pointing at the sky. Many a night when the astronomer has been photographing or observing some heavenly phenomena through the telescope, a passing street car or a heavily loaded truck has put a stop to the proceedings and caused the images in the field to dance a veritable shimmy."

Almost from the beginning of his association with Drake University, D. W. Morehouse had visions of the project that was to culminate in 1921. The need was definite, if not desperate, for an improvement that would furnish him with "better equipment with which to carry on his investigations, and at the same time the citizenry of Des Moines with the opportunity to avail themselves of a new cultural tool which heretofore had been denied them." Twenty years before the observatory was completed, Dr. Morehouse had already chosen the sightly knoll in the middle of the Waveland Park grounds as the ideal location. There, all the shortcomings of the old observatory would be eliminated, for no street car approached within half a mile, and the telescope could be mounted on a foundation which could "tremble only with the movement of some mighty cataclysm in the bowels of the earth". There also the air would be clear and "the 'seeing' fine".



COURTESY OF DRAKE UNIVERSITY

DRAKE UNIVERSITY MUNICIPAL OBSERVATORY

On the eve of the dedication of the new observatory in 1921, an editorial in the Des Moines *Tribune* admitted that when Professor Morehouse was forming these visions, "probably nothing was remoter from the municipal thought of Des Moines, and probably nothing was further from the financial program of Drake University. And yet today, that knoll in Waveland Park is surmounted by one of the most complete astronomical observatories in the United States. Professor Morehouse is fixed for a life career as official astronomer of the city, Drake University has an outstanding feature among American schools, and the average citizen has something to point to, as creditable to Des Moines as it is unusual in cities like Des Moines."

In the fulfillment of a conception such as this one, however, there must always elapse between the inception of the idea and its final realization many long years of constant planning, hoping, and praying. "Not everybody has the talent for organization, the sense of timeliness, and the quality of persistence in defeat and delay, but occasionally someone appears upon the stage of human affairs who can plan a work of twenty years and stick to his job."

Dr. Morehouse had to convince both Des Moines and Drake University of the feasibility of

the project. He had to convince citizens of the utility of a municipal observatory, showing how it was to be operated, and how it would benefit not only the university students but the high school students and the citizens of Des Moines. In addition, there was the usual financial problem — how to raise the money for construction and maintenance. Dr. Morehouse worked quietly but effectively, and he had the support of certain influential persons who shared his enthusiasm and foresight. Then, just at the moment when success seemed assured, an economy movement in the city council threatened to extinguish the hopes that had been buoyed so high. This was but the dark moment before the dawn, however, for the city authorities finally acted favorably on the project.

The observatory was truly the result of "cooperation between a city, a university, and the taxpayers". The cost, about $55,000, was borne by the city. Drake University purchased the municipal bonds issued to raise the money. The equipment and the staff were furnished by the University. The observatory was to be open to the public, without charge, on specified evenings, and visitors would be entertained with lectures, explanations, and actual observations. These plans worked out as Dr. Morehouse anticipated. During the first month of its operation, seven hundred

persons visited the observatory which was open on Monday and Friday evenings from 7:30 to 9:00 o'clock. The citizens of Des Moines thus demonstrated their active interest in astronomy, which Professor Morehouse, through his ability and popularity, had done so much to cultivate. The success of the observatory was the practical vindication of his vision.

On August 24, 1920, the ground breaking ceremonies for the new municipal observatory took place. Work on the construction proceeded smoothly. The building was completed and the equipment installed in just a little over a year. Invitations were issued by the University and the city of Des Moines to a list of patrons to attend the dedicatory ceremonies on November 5, 1921.

On entering Waveland Park, the visitors perceived the observatory situated on an elevated spot to the right of a small grove of trees. It was said that the site of the building was the highest point in the city. The observatory itself was described by Dr. Morehouse in the *Popular Astronomy* magazine for February, 1922. "Two of our leading firms of the city coöperated most effectually in giving to it more significance than is usually found in a building of this character. Its design presented a problem consisting of elements different from those usually confronting an archi-

tect. . . . The building is a massive structure of gray Bedford stone and the architecture is classic of the severe Grecian type." The article goes on to describe the sun dial before the main entrance and the hand-carved signs of the zodiac on the sides of the door, as well as other details that recall the contributions made to astronomy by the ancient civilizations from Egypt to Rome.

The building itself is so constructed as to assure the utmost efficiency, convenience, and comfort. It is moisture-proof and fire-proof. In the basement are rest rooms, a photographic room, a room for a seismograph, and the automatic heating plant. The ground floor entrance leads into the beautiful rotunda surmounted by a copper dome. Off the rotunda are a transit and clock room, an office, and a public lecture room and library. "The observing room is just above the rotunda. The telescope is mounted on reinforced concrete beams resting on the extra heavy stone wall and insulated from possible vibration by compressed cork." Around the exterior of the observing tower is a balcony with an iron balustrade, and the roof of the lecture room serves as a promenade.

"The equipment of the observatory consists of a nine-inch Warner and Swasey equatorial with optical parts by the John A. Brashear Company;

a five-inch photographic doublet, a nine-inch photographic lens of 120 inch focal length and a standard spectroscope, all by the same firm; a transit instrument by an English firm, chronograph, chronometer, sextants, and, in short, practically all of the usual apparatus used in Astronomy." What more could any astronomer desire?

On the day of the dedication, Dr. Morehouse was indeed a very happy man as he introduced the principal speaker, Dr. Forest Ray Moulton of the University of Chicago. Dr. Moulton emphasized the spiritual benefits of astronomy, in which "there has never been anything that is mean, or low, or sordid . . . Its object has been only the truth . . . I congratulate you on having completed and equipped so splendid a building. It is an ornament to your city. But I congratulate you more for having made easily accessible to your citizens larger worlds, physical, intellectual, and moral."

The key to the building was then presented to Dean Morehouse, who said, on accepting it: "I hope that this key which you have put in my hand shall never pass from me. I hope, sir, I shall be able to keep this key with some degree of honor to the institution and to the state and to you. As has been here stated so wonderfully, it is our faithfulness to our duty that counts, and it is my purpose,

friends, that this building, so long as anything may emanate from me with regard to this work, shall be held open to the public of Des Moines . . .

"My friends, I want to say to you that this observatory is not a mercenary scheme. It has been a long time in building and the methods that have been pursued have been the very best. So it seems to me it speaks of the thought of that old, biblical statement, and I think there has been no time in the world when we need to have a better realization of this fact. 'Hold fast that which is good and that which you have proved.' I have come to believe that the general public wants to know something about astronomy, and that they want to know the *truth* and that they want it in no bizarre way . . .

"The days have come and gone and twenty years ago this spring I stood here by a windmill which at that time was pumping water from a well; I looked over these hills, and I said, 'What a place for an observatory; is it possible?' And from that day to this it has never gone from my vision. Oh, friends, with all modesty, I want to say to you that today has crowned in this way a lifelong dream, and I am grateful beyond expression of words to the city of Des Moines, within whose confines I hope to live the rest of my life. I am grateful."

The Drake University Municipal Observatory has throughout all the intervening years fulfilled the most sanguine expectations of its founders. At the time of its construction it was unique in America for, though other cities had municipal observatories, Des Moines was the first to "plan and erect a public observatory in a public park for the primary purpose of giving to its citizens an opportunity to know the beauty, dignity, and high moral value of Astronomy." The observatory belongs to both the University and the city and is properly a part of the educational system of both.

How fitting that the ashes of the astronomer now repose in an urn placed in a niche in the rotunda of the observatory for which he gave so much of himself and which was so much a part of him. It is a beautiful thought to realize that Dr. Morehouse and his observatory, so intimately associated in life, are likewise now associated in death.

BEN HUR WILSON

Comment by the Editor

THE FRUITS OF AVOCATION

Fortunate is the man whose vocation is his hobby. If employment is merely the means of earning a living it is drudgery, but if it is also a form of self-expression it is the surest way to find happiness. People do best what they like to do. The measure of achievement is apparently associated with the creative impulse, because the monotonous performance of routine duty leads to mediocrity and failure but the stimulating experience of invention or discovery develops the resourcefulness and confidence of leadership. With free initiative comes breadth of vision and expansion of interests which characterize the cultivated personality. A truly educated man is never at a loss for something to do.

By this standard Daniel W. Morehouse must have been a happy man, for he managed to weave his many interests into the pattern of his life. Though astronomy was his profession he utilized that knowledge to provide the opportunity to cultivate his talent for teaching, to apply his ability of administration, and to fulfill his ideals in Christian service. The very breadth of his living, as

Ben Hur Wilson says, produced the balance of his personality.

It is appropriate that this PALIMPSEST should be written by a disciple of Dr. Morehouse. As a graduate student at Drake, Mr. Wilson studied under Dr. Morehouse who encouraged him to give priority to his amateur interest in astronomy and geology. Trained as an engineer and by occupation an insurance adjuster, he became a teacher of science in the high school and junior college of Joliet, Illinois. In emulation of his preceptor he has exploited his talents and cultivated his versatility.

By avocation Mr. Wilson is a student of Iowa history. Throughout his busy career, he has found time to investigate many aspects of the past. He has talked with old settlers, explored libraries and attics, examined official records, searched newspaper files, and discovered obscure sources of information. In the course of his research he has traveled from Boston to Denver. He is, by his own admission, a history fan.

Ben Hur Wilson has written many articles for the publications of the State Historical Society of Iowa. His first story was printed in the PALIMPSEST twenty years ago. Since then he has contributed one or more stories every year. The subjects have ranged from transportation and

astronomy to politics and music. This full number is a particularly appropriate contribution on his twentieth anniversary. May his custom long continue.

J. E. B.

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