rises even to the anthropoid grade of evolution, many paleontologists prefer to invent hypothetical unknown Oligocene and Eocene ancestors of man rather than to accept the highly varied Mid-Tertiary anthropoid stock as the common human-anthropoid source so precisely indicated by comparative anatomy and allied fields.

Refusing to accept even the paleontologic record so far as it is known, disregarding the cogent and direct evidence of comparative anatomy, many paleontologists do not hesitate to extend to man supposed laws of evolution deduced from the study of orders of mammals which in their entire organization and history stand in wide contrast to the primates. From such analogies has been conjured the Eocene Dawn Man—a colossal anachronism some forty million years ahead of his time in the world's history.

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SUTHERLAND SIMPSON[1]

WHEN I commenced work as a student of physiology in Edinburgh in 1899, Dr. Sutherland Simpson, having graduated in medicine that same year, had just been appointed an assistant in the department. Thus he was one of my first teachers in physiology. I already knew him well, for as natives of the same little county of Scotland and residing in the same university city we had frequently foregathered. It was a great feather in my cap to have made his acquaintance while I was a schoolboy there. Every Orcadian youth who came to study in Edinburgh knew at least something of his remarkable career, how from laboratory boy he had worked his way forward to a degree in science and had now set himself to qualify in medicine. In those days Simpson made a wonderful impression upon his associates. As one man put it, "When he walks into a room of people, with self-reliant step and head high, he carries an atmosphere with him. You recognize at once that there is a man." I did not know which to admire most—his abounding energy and virility or his unusual gift of sympathy and kindness.

On the remote island where he was born he had early decided on a career. That was not to become a physiologist, for he had never heard the word named. One day a Dundee whaling vessel with full spread of canvas approached and dropped anchor near his home. The sight of the captain standing solitary and with speaking-trumpet issuing peremptory orders, which, instantly obeyed, controlled every turn of the vessel, was a revelation to the youth, who had never before seen a man exercise what seemed to be boundless authority over his fellow men. Thenceforward Simpson had one ambition. That was to be master of a seagoing merchantman. To this he would bend all his energies.

The first thing was to acquire some higher education. Fortune here favored him. The school teacher, in order to escape from a contentious wife, started an evening school for the young men of the island. The main subject was navigation, but he also professed arithmetic, elementary mathematics and English composition. Simpson later discovered that he likewise knew French, but he had to extract the information, for the dominie was a poor expounder, and the evening school, as a commercial proposition that might have helped to temper the gibes of the wife, proved a complete failure. Very soon there was but one pupil left—Sutherland Simpson. This indomitable scholar stayed on month after month until he had been introduced to English literature, had read the whole of Voltaire's "Charles the Twelfth" in the original and had exhausted the store of mathematical knowledge of his instructor.

Years afterwards I chanced to meet a farmer who had known the Simpson family; as a young man he had sailed each summer on the herring-boat owned by Simpson's father. The father, a highly intelligent observer, placed his nets with such discrimination that the other fishing craft used to profit by merely watching and following the course that he took. So successful each year was the Simpson boat that there was keen competition among the young men to be numbered among the crew of that vessel. My informant, speaking of the son, who by this time had made his way in the world, said, "A most remarkable man is Sutherland Simpson, and he was that when he was a boy. When I sailed on his father's boat and we would be lying at the nets, the other fellows might be skylarking, playing the melodeon or dancing on the foredeck. But Sutherland Simpson would aye be sitting in the stern with a slate in his hand doing some calculation or other."

To carry out his cherished ambition Simpson left home at the age of sixteen and proceeded to Leith, his idea being to join a ship there. It was a time of great scarcity of work and he had to take a temporary job as a dock laborer. Sustaining an accident to his hand, he was incapacitated for some weeks. Meantime an advertisement in an evening paper announced that the department of physiology of Edinburgh University required a laboratory boy. On the strong solicitation of his landlady, a shrewd woman who had recognized his superior knowledge, he went

[1] Address delivered April 13, 1927, on the occasion of the presentation of a portrait of the late Dr. Sutherland Simpson to Cornell University.

at the appointed time to the university, where he found a queue of some seventy or eighty men, young and old, all applicants for the position. The professor sat in his room and interviewed the candidates, one after another. It is extraordinary to relate, but Simpson was selected for this menial position because of his unexpected knowledge of many things, and particularly of Macaulay's "Essay on Warren Hastings."

Here was an entirely new life for the would-be master of a sailing vessel. Thorough in everything he handled, Simpson applied himself with such effect that it was not long till he was promoted to be head technician. He designed and drew the charts, made the preparations for all the laboratory classes, assisted in all the experimental demonstrations given by the professor—which invariably broke down when Simpson was absent—and became wholly indispensable to the conduct of the establishment. At first he attended night school, then he took evening science lectures in the Heriot-Watt College, studied physics, chemistry, botany, zoology and bacteriology. His laboratory duties became increasingly hard, for the more efficiency he displayed the more work was loaded upon him.

In those days he roomed with a fellow countryman of habits and ambition similar to his own. This roommate drove a brewer's lorry, and, just as Simpson in the laboratory would snatch an odd moment to study chemistry, English, Latin or mathematics, so the lorry driver, perched on a sack behind his team of horses, would con over books on corresponding subjects. The working hours were long. The lorryman started at six in the morning and unyoked at six at night. Simpson went on duty at eight and was not free till nearly seven. Nevertheless the two men at the end of their twelve hours' day went regularly to night classes, and ended up the long evening in free discussion of the subject-matter of the lectures. In due time both entered their names for a South Kensington Science and Art Scholarship. These scholarships, no longer in vogue, played quite an important educational rôle in their day. They had been promoted chiefly by Thomas Huxley in order to assist just such people as we speak of. Out of the whole city of Edinburgh Simpson and his companion were the only two night students who were that year successful.

The lorry driver proceeded to London, where he graduated in agriculture. Not long afterwards he became professor of agriculture in one of the English universities, and later, director of agriculture to a whole country. Simpson meant also to go to London, but his chief interposed. "Quite impossible! How could he ever desert the laboratory without giving adequate notice and opportunity for training a successor?" The chief, who knew the examiners, would see that he got a scholarship next year. It was a heartbreak to Simpson, who, with his great aversion to inconveniencing other people, allowed himself to be persuaded against his better judgment and to stay on for another year. To prepare for his departure a regular succession of laboratory apprentices was engaged. Each novitiate would serve for a month or two and, proving unsuitable, would get his discharge, that is to say, if he had not previously resigned of his own accord. Simpson's chief was of an overbearing nature, and only a servant with the consideration and tact and (may I add) with the restless ambition of Sutherland Simpson, would have consented to hold the position so long as he did. It is credibly asserted that on one occasion Simpson, with his superior physical knowledge, intervened just in time to save the chief from propounding an untenable theory before an important scientific gathering. As the result of criticism by his laboratory technician the advertised communication of the departmental head was hurriedly withdrawn. I can not vouch for the truth of the story but I do vouch for its possibility. Certain it is that all Simpson's efforts toward self-education and independence were viewed with disapproval by the professor of physiology, and at the end of his year he was informed that his departure was out of the question. He could not then help himself, because he had forfeited the scholarship that would have made him independent.

His next move was to enter for a B.Sc. degree in the university. It was useless to request any hours of exemption from laboratory duty during the day; he could qualify only by attending extramural classes at night. His plan was frowned upon, but Simpson had resolution and determination quite equal to that of his superior in command, and in due time he took the degree. By now he had decided upon a career in physiology, and to that end he entered the medical school. I need scarcely stress the financial difficulty involved in such a project. It absorbed all his savings. He gave up his laboratory appointment, and each summer took his place as a herring fisher in his father's boat. It was at this stage of his career that I first came to know Simpson, and my outstanding recollection of him apart from his superabundant energy is his kindliness, his sympathy for others. Not a word of his difficulties, not a whisper of disappointment or of bitterness; instead of that a humorous, even joking attitude towards obstacles, and a catholic outlook on human affairs.

So soon as he graduated he entered his old department as a qualified assistant under a new chief, Sir Edward Sharpey Schafer, who, knowing his exceptional history, was filled with respect for him. Simpson had now to some extent come into his own. It

was in order to teach his chosen subject and to engage in research work in physiology that he had, after dropping his idea of a nautical career, devoted so many patient and laborious years to study. His first research work won for him a gold medal on his graduation as doctor of medicine. Later he added the D.Sc. degree to his other academic distinctions, and was elected a fellow of the Royal Society of Edinburgh. During this period he engaged, partly by himself, partly in collaboration with others, in a large amount of research work, on the cortico-spinal tracts, on the minute structure of the liver, on the body temperature of vertebrates and on temperature regulation in bird and mammals, on the secretion of bile and of pancreatic juice, and on certain aspects of endocrinology. In 1908 he was appointed to fill the reconstituted chair of physiology and biochemistry in Cornell University, where in 1920 he was made World War Memorial professor of physiology.

Simpson had a happy time in Cornell. With his gift for making friends he was very soon at home in his new surroundings. The pleasurable excitement with which he surveyed the field on arrival, the joy he felt in being at last wholly independent, the interest he took in his new university and in his associates, are recorded in numerous letters to his acquaintances. He had now attained the command for which he had schooled himself. He was at last in charge of his ship; and under his skilful navigation and constructional superintendence she became the tight and handy vessel that for eighteen years was to outclass many of her heavier rivals. Simpson dearly loved a race, and whether he was in an actual sailing craft (any one who ever witnessed his control over a sailboat conceived a new respect for him) or whether he was running his laboratory, he spread every stitch of canvas and utilized every inch-ounce of available motive power. His classes increased in numbers and in popularity. He trained and sent out many physiologists, who are attached to him by ties of sincere respect and regard. His laboratory grew steadily in resources and in equipment, until it is now left as a unique heritage to his successor. Above all he brought his department into the forefront of research activity, the Cornell work, especially on thyroid and on parathyroid problems, being now familiar to all physiologists and to a large circle of medical men.

Simpson was the real scientist, but it was not his scientific qualities alone which made him great. If we may number them, he had two outstanding additional characteristics. First of all, he was essentially a scholar, and a scholar of wide range. Despite early handicaps that might have deterred a more timid or more indolent man, he had sought out for himself much of the best and greatest wisdom contained in books. His range included the classics of antiquity, early Icelandic literature, Russian, French and German literature, to which must be added a wholly unusual acquaintance with the greatest writers in our own language. He had, what we scientific people so frequently miss, a historically cultivated mind; and his interest in all these things was to an uncommon degree of that unselfish kind which made him long to share his literary experiences with others. Every one who knew him will remember the eager, almost solicitous, enthusiasm with which he proclaimed his discovery of a new book revealing some striking conception or original outlook. His extensive acquaintance with literature gave him balance and markedly enhanced his other characteristic, which was his *humanity*.

Of this I find it difficult to speak. The man who had spent his life in obstinate battle with difficulties, in resolute domination over circumstance, was the kindliest and most considerate of men, the first to proffer help to others in their discouragements. When he gave help, as he was constantly doing, he gave of his unstinted best. To the end he lost none of his honest and openly expressed contempt for the untruthful or the mean, in whatever guise they might appear, but his judgment of individuals was invariably broad and catholic, never vindictive. I do not believe he had a single enemy, which is a strangely illuminating statement to make of a man of Simpson's strength of character. His life is a great lesson to us, which we can contemplate only with feelings of wonder, of humility and of admiration.

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SUMMER SCHOOLS FOR ENGINEERING TEACHERS

As recently announced, the Society for the Promotion of Engineering Education has undertaken an experiment in the training of college teachers of engineering through the establishment of summer schools to be conducted by the Society at Cornell University and the University of Wisconsin during July, 1927. The purpose of the schools will be the discussion and study of methods of teaching the basic subjects of the engineering curriculum. For the first year the subject of mechanics has been selected because of its fundamental importance and its pivotal position between the work in mathematics and physics and the study of the engineering subjects proper. Mechanics was chosen also because all engineering teachers have a working knowledge of it and consequently will be able to appreciate discussions of