

PREFERENCE FOR THE FIRST BORN

SCIENCE under the inspired leadership of the famous inventor, Dr. Alexander Graham Bell, has just completed a convincing justification of the biblical contention that the first born child was more important to the world than the younger children of his parents. Dr. Bell founded and is now directing the research work of the genealogical record office at Washington, D. C., and his workers upon investigation of hundreds of cases of longevity discovered that the eldest child on the average lives longer than do its younger brothers and sisters. They have produced evidence to establish the fact that the first born is of superior virility and vigor.

Ancient Israel was firm in this same belief. In Deuteronomy we find the law laid down in this fashion: "If a man have two wives, one beloved and the other hated, and they have children by him and the son of the hated be the first born, and he meaneth to divide his substance among his sons, he may not make the son of the beloved the first born and prefer him before the son of the hated."

"But he shall acknowledge the son of the hated for the first born and shall give him a double portion of all he hath, for this is the first of his children and to him is due the first birthright."

Elsewhere is discovered: "And the Lord spoke unto Moses: Sanctify to me every first born among the children of Israel as well of men as of beasts, for they are all mine. For every first born is mine, since I struck the first born in the land of Egypt. I have sanctified to myself whatsoever is first born in Israel both of man and beast; they are mine."

The reference to the slaughter of the first born in Egypt is descriptive of this ancient belief, for when Pharaoh needed the supreme punishment to awaken him to the power of the God of Israel he lost his eldest son. The wholesale destruction of the first born was the most impressive lesson that Egypt received, for the first born were the power of the nation. It is interesting to note in this connection that Moses, the greatest leader of the Jews, was himself the first born of his parents.

The modern world is still tinged with this belief, for in titled Europe the name and estate is yet handed down to the eldest son as his right. Crowns descend in order of succession, determined by the law of primogeniture is always the oldest living son. Barons and dukes and earls all devote more time and money to the education and training of the first born boy than to his younger brothers and sisters. This has been since the days of Israel merely convention and habit, but it arose in the primitive belief that the first born somehow was of more consequence than the second born.

Not long ago science advanced the argument that the first born was weaker than those children born subsequently, pointing out that there is a higher percentage of mortality among them. Until Dr. Bell's report was made public it seemed that this refutation of the biblical opinion was destined to become established, but the American Genetic association has awakened authorities all over the world to the fact that the Bible was right after all.

"Dr. Bell's discovery, with interesting comment upon it," is contained in a recent issue of the Journal of Heredity, whose editor says: "In the controversy over the alleged inferiority of the first born no direct investigation has been made of the number of long lived people who were eldest sons and daughters. The genealogical record office of Washington, D. C., has been collecting instances of longevity for several years and its founder and director, Dr. Alexander Graham Bell, has permitted the Journal of Heredity to investigate the data in regard to the birth rank of old people represented in his collection."

"Of 802 cases which represented in general people over 80 years of age, 217 were found to be first born. "It has been previously established that long lived people tend to come from large families. "First borns, who have sometimes been supposed to be handicapped with all sorts of physical weaknesses from birth, are relatively more numerous than any other birth rank. The number of individuals in the last birth rank is somewhat surprising in view of the generally accepted belief that the last child of a very large family tends, because of exhaustion in the mother, to be defective and is often an imbecile of the so-called Mongolian type. The last born is not necessarily lacking in a tough constitution which will enable him to survive for 90 years or more. "If, then, we draw a sample of long-lived people from the population we would expect to find more first-borns among them because the initial incidence of natural selection left the surviving first born more fit on the average than the surviving second, third or fourth born."

Dr. Bell found out that elder children live, generally speaking, about four years longer than the younger. Drs. Beeson and Pearson secured 1051 pairs of brothers and 732 pairs of sisters where the interval between the births was known and further studied this question of longevity. Again it was discovered that the elder child lived, on the average, four years longer than the younger. These investigators say: "Our numbers show that of the whole earlier born members of a family are the stronger, or at any rate fitted to survive the longer."

Another brother had probably seven years' greater duration of life; a sister born ten years before another sister had probably about six years' greater duration of life. The editor of the Journal says: "How can we square these results with those reported that still births are the most frequent among the first born, that the health of the first born child during its early years is below par?"

"Natural selection appears to offer a satisfactory explanation at the birth of the first child—the maternal mechanism is less well adapted to its work than in the case of subsequent births. Particularly in the case of middle-aged women physicians say that the strain with their child is subjected at birth is greater at the first than at later births. The first born child is therefore more straggling than are his brothers and sisters; a greater percentage of the first children die at birth. Now if we take the assumption that those who die are on the average inherently weaker than those who survive the ordeal, it follows that the average of strength among the first born adults in a population would be higher than among the second or later born, not because they were as a rule superior physically from the start, but simply because a greater proportion of the weaklings were eliminated at the start."

Of the 802 cases investigated it was established that 217 were first born, 118 second born, 104 third born, fourth born, 82 fifth born, 40 sixth born, 23 seventh born, 20 eighth born, 21 ninth born, 20 tenth born and 21 were in a group of the eleventh, twelfth, thirteenth and fourteenth born.

It is doubtlessly true that the early citizens of the first born when he often passed his infancy. They probably saw the first child die quite often under the extraordinary strain which nature put upon him, but rally and develop into exceptional strength once he passed the danger point. They noticed that the old law of the survival of the fittest worked truer in connection with the first born than in almost any other instance and that the eldest children, when they did live, were more forceful than subsequent members of the family. Also from the psychological standpoint it is perfectly natural that the oldest live were more forceful than notice and favors than younger ones since it is more value sentimentally. For a time it occupies all of the affections of the parents, and it is always an object of comparatively greater pride. It is characteristic that parents eventually care just as much for the younger children, but the hopes being intense and more vivid during the infancy of the first born there is always attached to it some atmosphere of extraordinary interest, however unconsciously and uncalculated. Modern American inheritance laws make no distinction between the eldest and youngest child, being, in this, like the Roman law, that the youngest was favored, and ancient civilizations thus administered, for barbarian tribes laid down the rule that the eldest son should inherit his father's spear and but, taking in the usual instance his name as well.

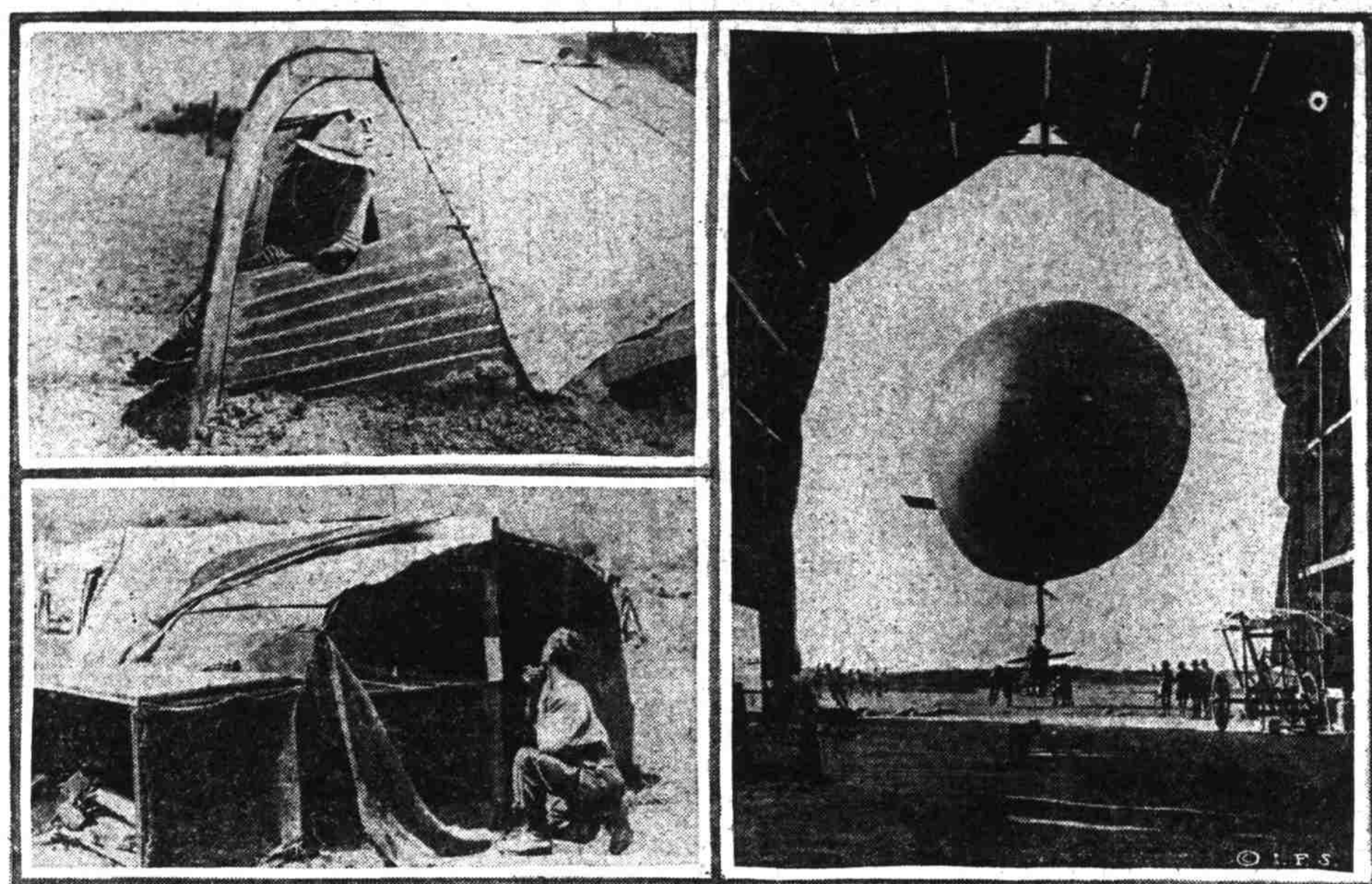
By this custom civilization in its earliest stages became ruled by the eldest, the great majority of rulers have been first born. Kingdoms and principalities struggling into some sort of organization in ancient and medieval times were naturally ruled by history and what history they had stated that the first born son of the chief should be king. This today we find the Prince of Wales regarded as a greater honor than any of his younger brothers because his future, by the English definition of right, is to be much more consequential than that of the other children of King George.

works so quietly that, although he had shipped thousands of strike-breakers and even hundreds of rifles and cases of ammunition to numerous railroad points for the anticipated Labor day strike, not a word appeared in print about his activities anywhere. "I can put 5000 experienced non-union railroad men on wheels out of Chicago alone at any time on 10 hours' notice," says he. "I don't mean now, when they are gathered there, but at any time. I once telephoned my agent in Chicago and had 500 experienced motormen aboard a train for a city where there was a strike in progress. "Where they come from I don't know, nobody knows. But we have them listed and they jump at the call, because the wages are high and the boys are thoroughly protected and well cared for."

To illustrate the scope of this un-sure business, we assume that his transportation bill for shipping men averages \$50,000 a month the year around, with the New York Central railroad alone, which makes him a bigger railroad of passengers than all the theatrical producers in America, with all their traveling companies combined. The employers, of course, foot these bills. "In this instance the New York traction companies will bear the cost of the sensational journey to New York, two other special trains on which he shipped the pick of his subway motormen from Chicago earlier and all the swollen wages of all the men they need to protect property or run trains. In addition Wadwell will be paid a per diem per capita premium running to many thousands a day. But in order to earn it he must be there in person. "Personally, still the big factor in big affairs, must be the secret of this strange and interesting man's weird and lucrative vocation. "Strike-breaking has become a new art when one sees it cushioned in a mansion car, flying ahead of the Empire State express with all ordinary and extraordinary traffic sidetracked to let it pass.

For the Eyes. Do not fore bright artificial lights with a dark background. Do not admit a streak of bright sunlight into a room that is otherwise shaded, but rather keep the windows wide open. Use as steady a source of light as possible, and avoid all sudden changes of illumination. If dark glasses are worn, it should not be all the time, but only when the eyes are exposed to the brightest light, so that the contrast between it and the feeble light may be diminished. When light hurts the eyes, in spite of care to avoid strong contrasts, it is likely that the eyes are strained, or irritated, or inflamed, and the cause of the trouble should be sought out and removed.

THE OCCUPATION OF SALONIKI by armed forces representing the several entente powers is accompanied by many unusual sights, such as those pictured below. At the left is shown the beach home of an English Tommy, who has fashioned a shelter from half of a boat. At the right is seen one of the huge British scout balloons, that rivals a Zeppelin in size, leaving its hangar.



Indian Boy Is Real Artist



Five-year-old Sampson Simpson, of the Grand Ronde Indian Reservation, whose silhouettes of animal life are the expression of an artist.

By Alfred Powers. WITH a pair of cheap scissors, a five-year-old Indian boy on the Grand Ronde Indian reservation, in Yamhill county, has for nearly a year been cutting wonderful pictures of animals out of pieces of pasteboard culled from discarded shoeboxes picked up in the rear of the reservation store. This little fellow is named Sampson Simpson. He is a full blooded Indian. He has never been to school. No one ever told him to cut pictures from pasteboard. No one ever gave him any training. While boys and girls several years older than he, in city schools throughout the United States, are making their first crude attempts at cutting silhouettes, guided and supervised by trained teachers who prize this "cut-out-work" as a form of manual training, "to develop the hand as a sense organ," this untutored red boy sits at his mother's doorstep and from stray scraps of pasteboard cuts silhouettes of animals that he sees about him, silhouettes full of meaning and action. Sampson does not trace his pictures. He cannot write and, so far as anyone knows, he has no special aptitude for drawing. That old pair of scissors is the instrument by means of which he expresses with fidelity varying aspects of animal life and action—the unbroken broncho backed by the wild reservation rider, the indignant steer with stiff front legs trying to dislodge the riotous cowboy, the frightened fleeing rabbit, the fish flapping free from the water in a curve which city children might think unnatural or even impossible, the hog, fat and obstinate, the lamb, the turkey, the rooster, the dog, the squirrel. The rider of the broncho leans forward; the rider of the steer leans backward; in each instance to give him a perpendicular position, for the horse strained, or irritated, or inflamed, and the cause of the trouble should be sought out and removed.

The President's New Flag



This photograph shows the new president's flag which will fly from the stern of the Mayflower when the president is aboard. The new flag differs from the one now in use in that the new background contains four stars to distinguish from the similar regimental flag of the war department. The four stars in the blue ground indicates the rank of an admiral, while the United States seal indicates the higher rank of the president. Three presidents have approved designs for personal flags, these being Presidents Arthur, Taft and Wilson. The United States seal has been slightly changed in this design from the regulation seal, one difference being that the eagle faces to the right instead of to the left, and the phrase, "E Pluribus Unum," is not divided as it is on silver coins.

EARLY CAREER OF THE INVENTION

By Ellwood Hendrick. Introducing of Analine Oils in America. Copyright, 1916, by Ellwood Hendrick.

THIS is what happened in the research laboratory of one of the well known electric companies. Of course, they encourage invention, and their methods will show. They employ men at good salaries as inventors, and new ideas are also welcome from any one in the establishment. In fact, invention is made as easy as possible. In what follows we shall discuss only such as originate within the laboratory, without reference to new ideas that come in from outside sources. The process with these is similar in many respects.

Suppose you are one of their engineers, or physicists, or chemists, and it occurs to you that something might be improved or done in a better way by means of a new device or arrangement. You then tell the chief of your department of the pregnancy of your mind. These chiefs and their assistants are a select body of men whose positions are much sought after by men of science, because of the interesting nature of the work and the agreeable associations connected with them. "Have you thought out the idea?" the chief is likely to ask, and your answer will probably be that you would like to think about it a little more. You may take as much time as is necessary, for you are free to talk about it now, you may tell your story. Then a good draftsman, who is exceptionally quick at freehand drawing, is turned over to you. By the time you have finished talking to him you have a clear picture on paper of the idea you have in mind.

If the picture seems about right and to confirm your ideas, it is next turned over to the drafting room, where a design is worked out and drawings of the various parts are made. These in turn go into a model making shop, and a working model is produced. Then you have your review of the model. You had the least possible trouble to whip it into its first shape. But, no matter how well you are pleased with it, or how well you have tried it out, it next goes to a group of devil's advocates. These young men are trained in finding fault, and they have keen eyes for defects. After they have tried to kill the invention and failed, it is tested out. This is no simple test. It must not injure or work to the inefficiency of other instruments, and it must not get out of order. During this time it is likely to be amended and improved in various features, so that the last design is different from and better than the first. Then it goes to the manufacturing shops, and here it meets more trouble. There is sure to be complaint about the expense of manufacture, or one difficulty or another, and amendments and changes are proposed, so that when the new factory model reaches the inventor he may hardly know his child. Then comes a season of compromise and suggestion, and there come back

in time a number of factory-made instruments of a form that may be agreed upon as final and workable. But the agreement is only a preliminary one. The device is joggled, and shaken, and rapped, and hammered under all the vicissitudes of contact and strain, and is subjected to all the sorts of injury that it can possibly meet. This continues until the poor thing is worn out. They keep at it until it breaks. Of course, all this abuse is studied abuse; it is the quality of hardness that it is bound to endure in time, somewhere, if it comes into general use. It is wilfully destroyed in the exercise of its functions, which is a very different thing from ruthless destruction. And right here is answered one of the most interesting questions: "Which part will give way first?" After a number of instruments have been used up in a similar manner, the weakness is strengthened until the whole thing, like the deacon's one-hoss shay, goes into general dissolution at its breaking point. If it is to be used out of doors, it is further tried in its durability, and dryness, and heat and cold, and shifts of temperature up and down, and subjected to all the things that happen in all sorts of weather. Finally the laboratories are classified and the factory is ready to produce. Then it goes formally to a body of consulting engineers, who consider it in all its details. The severe criticism a new fear about it, if it goes to the laboratories to withstand tests to meet the new objects. Then it comes before the chief engineer, and at his order a number of samples are sent out in a field test. If this is favorable, the device is adopted and it finds its way into use.

This is what we might call the technical career of an invention. Every effort is made to get the idea born; every help is given to the inventor until he is delivered of his thought. Then every aid is given to get it into workable shape; there are skilled draftsmen and draftsmen at hand to pull it through the troublesome times when little difficulties may kill it. It is carried and helped through all the tribulations of infancy until it can stand alone and profess to do its work. Then come the hard knocks and stresses and strains and wearing down of actual use. The severe tests of standards of the establishment is the quality shall never go down, and that every change shall be an improvement. And yet these inventions are constantly adopted.

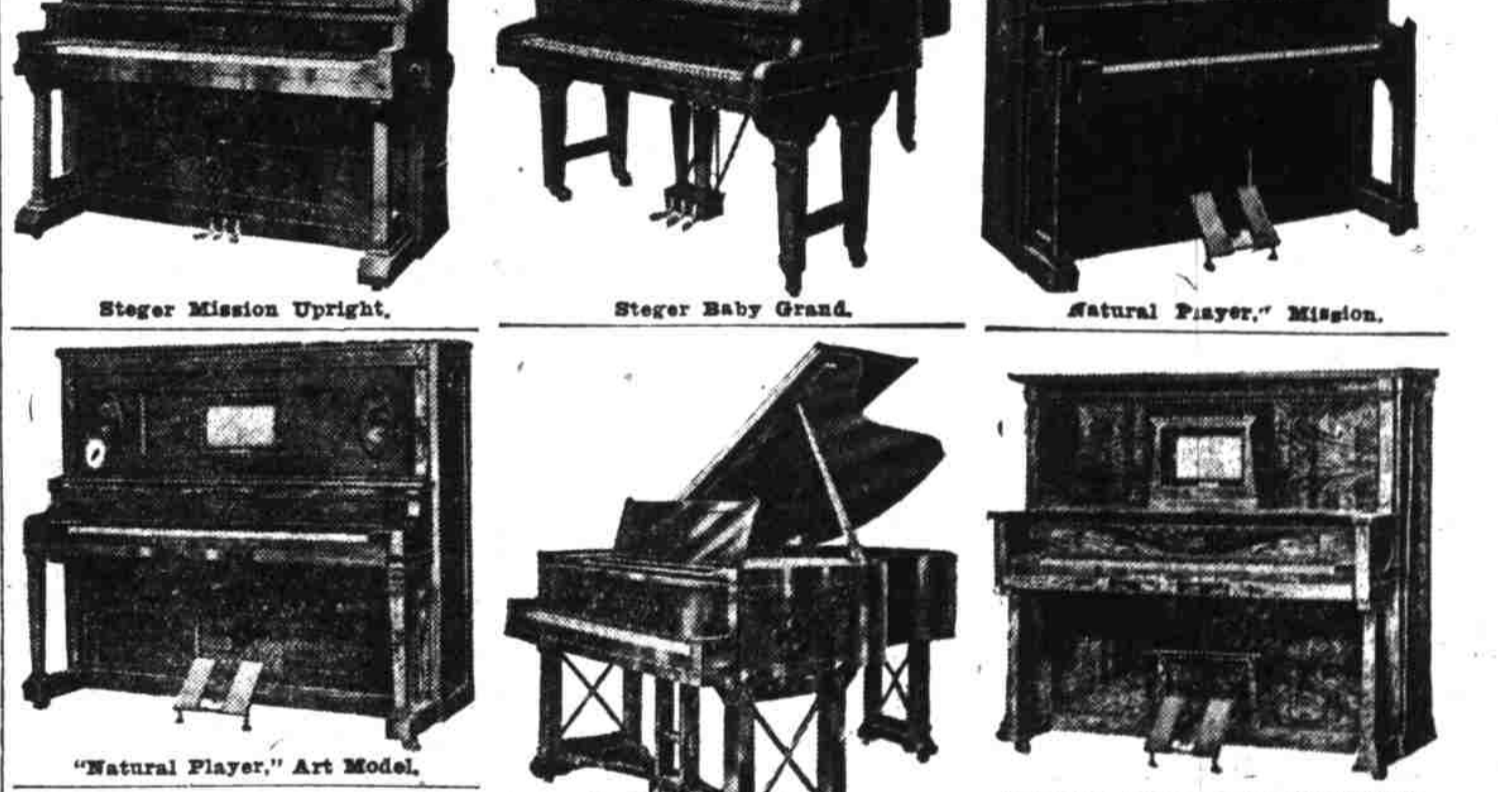
Very like a human career, isn't it? Every time in the last half century that a census has been taken it has shown an increase in the percentage of urban dwellers in England and Wales, and a decrease in the proportion of rural residents.

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