

LETTERS TO THE EDITOR.

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Sequestered Church Property.

A WIDELY spread feeling exists, especially among Roman Catholics, that sequestered church property carries a curse with it; that the effect of the curse is to extinguish the line of descent from its owner, and to fall most heavily on the eldest son. A lady was so much impressed with what had been told her and with the evidences adduced as to the reality of the curse, that she asked me to help in investigating the matter. It had other interesting aspects, so I consented to frame an appropriate *questionnaire* for starting the inquiry on proper statistical lines. This was printed, and 245 copies of it were filled up by a well-known antiquarian, the Rev. Harvey Bloom, of Whitchurch, near Stratford-on-Avon, in the order in which they happened to be entered in the works of reference that he used. Their contents were then discussed by Mr. Edgar Schuster, fellow of New College, Oxford, and formerly research fellow of the eugenics laboratory in University College, London. Finally, such of the results as seemed most appropriate are given here. Mr. Schuster's report was elaborate; it ought (as he wrote when he sent it) to be checked as regards minute particulars if published in full, but he is quite content that the broad results given in the present paper should go forth as they stand.

The questions referred to the owner of each of the 245 properties in 1800 and to its owner at the present time, or at the latest date at which information was easily accessible; also to each of the intermediate owners in succession.

The phrase "Church property" applies to such properties as were ecclesiastic, wholly or in part, previous to the dissolution of monasteries under Henry VIII., and "Not church property" to those that were not so.

The results are as follow:—

SURVIVAL OF ELDEST SONS.

Total number of owners		Of eldest sons among them	
			per cent.
Not Church Property ...	459	241 ...	52.5
Church Property ...	464	240 ...	51.7

LENGTH OF TENURE (EXCLUDING FIRST AND LAST ON THE LIST¹).

Mean length	Median length
Not Church Property 27.2 years	Between 25 and 26 years
Church Property ... 27.4 "	" " "

Calculations were also made of the mean relative frequency of tenures in each of the eight groups:—0-9 years; 10-19; . . . 70-79 years. The lines in a diagram constructed from these ran closely alike, quite as closely as could be expected from the eight-times reduced sizes of the samples from which these means were derived. We may therefore rest satisfied that no appreciable effect is exerted by a curse supposed to thwart the inheritance of church property by eldest sons, or to shorten the tenure of its ownership.

A curious anomaly is, however, formed in the more than three-fold greater frequency with which church properties come into the market as compared with non-church properties. The facts are given in the following table:—

	Total of owners	Total of transmissions by purchase	Percentage of transmission by purchase
Not Church Property...	459 ...	15 ...	3.3
Church Property...	464 ...	50 ...	10.8

The answers to the *questionnaire* do not give sufficient material for minute examination into the reasons why church property is sold with this remarkable frequency, notwithstanding what has just been established concerning the length of its tenure. It would require a fresh and more delicate investigation to explain it. For the present,

¹ These are excluded—the first, because the data did not give the commencement of the tenure; the last, because the owner was still living, and therefore the future close of his tenure was unknown.

I am inclined to ascribe the anomaly to the comparative unsuitability to modern requirements of the dwelling houses, such as abbeys, &c., which frequently accompany church properties. They are nearly always built in low situations, near to fish ponds, and with bad drainage. They are therefore insalubrious, while the arrangement of the apartments is usually inconvenient in many important respects, and very costly to modify. On the other hand, the picturesqueness and romance of old buildings adds much to their market value. So it might be expected that when one of them falls into the possession of a distant relation, who has no very close associations with the place, who knows its discomforts, and probably has a residence of his own, he would be glad to sell. This is a pure speculation, but helps to show that the contents of the above table are not so provocative of a mysterious interpretation as they might otherwise be.

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The Isothermal Layer of the Atmosphere.

APART from other considerations, I think that Mr. Craig's contention (*NATURE*, January 7, p. 281) as to the isothermal layer is disproved by the results of theodolite observations on *ballons-sondes*. When a balloon is observed, its altitude above the horizon is in general seen to decrease, showing an increase of wind velocity with height. If Mr. Craig's supposition were true, this decrease in apparent altitude would become still more marked when the balloon had reached such a height that it no longer ascended; but the contrary is the case. In nearly all the ascents in which I have observed balloons for a considerable time the angular altitude, after decreasing, commences to increase again; on Mr. Craig's supposition this would mean that the balloon, after it reaches the floating condition, enters a current of air that brings it nearer to the observer, and for this to occur frequently is extremely unlikely.

Two instances will illustrate this point. A balloon on October 1 last year was watched until it burst; the meteorograph gave a height of 19 kilometres, with the isothermal layer at 12.2 kilometres. If the balloon had ceased to rise at 12.2 kilometres the observed altitudes show that it would have been moving towards the observer at the rate of 25 kilometres an hour during the six minutes previous to bursting, whereas before this it would have been moving away at the rate of about 70 kilometres an hour. At the time it burst it would have been 46 kilometres away, and it fell 104 kilometres from the starting point; the balloon was unlikely to travel further during the descent than during the ascent.

In the ascent of October 2 the balloon was also seen to burst; the height from the meteorograph was 17 kilometres, with the isothermal layer at 14.6 kilometres; if the balloon had ceased to rise at 14.6 kilometres it would have been moving towards the observer at the rate of about 9 kilometres per hour during the seven minutes before bursting, while previously it would have been moving away at the rate of about 50 kilometres per hour. If either balloon had reached a floating condition, it is difficult to see why it should have burst; it would probably have floated until loss of gas caused it gradually to descend. I think it is quite evident that on these two occasions the balloon was ascending up to the time of bursting, and both traces show the isothermal condition. If it is assumed that the height as given by the meteorograph trace is fairly accurate, the increase in angular altitude at the end of the ascent would show that the balloon had entered a layer of the atmosphere where the wind velocity had decreased considerably, which is exactly what one would expect to find in the isothermal layer.

In reference to Mr. Craig's supposition that the gas inside the balloon may be sluggish in acquiring the low temperature of the air into which it rises, it seems probable that the gas inside the balloon will tend to be at a lower temperature than the air outside, for the gas inside will tend to cool at about the adiabatic rate for dry air, while the rate of decrease of temperature of the air up to 12 kilometres or so is nearer the adiabatic rate for saturated air.

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