be solved for $s$.* This completes the proof of the theorem.

If $f(x)=0$ is of degree 7 or 8,† there exist three $\phi$-functions having the properties of Brioschi's theorem. We then set up a transformation similar to (1), and the equations $\sum y^3=0$, $\sum y^4=0$ are homogeneous equations in three parameters. The determination of $c_1$, $c_2$, $c_3$ will, in general, lead to an equation of the 12th degree, as was pointed out above.

If $f(x)=0$ is of degree 6 it does not seem possible to lower materially the maximum 24 which was obtained in the second paragraph.

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# SOME PROPERTIES OF MULTI-COHERENT CONTINUA‡

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1. In a recent paper§ C. Kuratowski gives the following definitions:

A continuum $C$ is called *uni-coherent* (or *n-coherent*) if for every decomposition of $C$ into two continua $K$ and $L$, where $C\neq K\neq L$, $K\cdot L$ has one (or $n$) components. A continuum $C$ is called *multi-coherent*, if $K\cdot L$ is not connected.

The properties of such continua are later developed in some detail. Among the theorems proved are the following.

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* The very exceptional case in which the coefficients of $s^4$, $s^3$, $s^2$, $s$ all vanish, while the term free of $s$ does not vanish, may be handled by introducing homogeneous parameters in (3), that is, by putting $M=s+t$, $M_2=a_2s+b_2t$, etc. For the present case, $t$ must be zero.

† Although Brioschi's theorem does not mention equations of even degree, $(n-1)/2$ $\phi$-functions can be set up for an equation of even degree $n+1$ just as they can for an equation of odd degree $n$, and in different ways as well.

‡ Presented to the Society, October 27, 1928.

§ C. Kuratowski, *Sur la structure des frontières communes à deux régions*, Fundamenta Mathematicae, vol. 12, pp. 20–42.