one of the examples he informs the more careful reader that a large class of equations are excluded from consideration. This is, indeed, necessary, as otherwise the reasoning of § 172 may become illusory by the vanishing of $[\omega, \alpha]$, as simple examples will show. But even with this restriction it must be shown or assumed that this expression does not vanish.

Another point which we believe has not been sufficiently emphasized relates to the equality or inequality of rational functions of the roots. How often in Galois's theory do we have to decide whether a rational function of the roots has or has not been *changed* or *altered* by a set of substitutions. The only explanation of this fundamental and delicate matter we have found is in a footnote on page 124.

Would it not be well to restrict the term *general equation* to one whose group is the symmetric group? The author follows well-established usage in calling a general equation one whose coefficients are independent variables. Because algebraicists thought a century ago that these equations represented the general case is no reason to perpetuate a term which is sure to produce confusion in the mind of the beginner. Apropos of these equations we must express our regret that the author has allowed the demonstration given in § 158 to pass muster; it is a demonstration which does not demonstrate.

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La contagion mentale. Dr. A. Vigouroux et Dr. P. Juquelier. Paris, 1905. Pp. 250.

This is one of the volumes in the French *Bibliothèque internationale de psychologie expérimentale, normal et pathologique.* Mental contagion is the name here given to what is generally known as imitation in the narrow sense, *i. e.,* unconscious imitation. The process is unconscious on the part of both the imitator and the person imitated. Thus contagion excludes voluntary imitation and personal suggestion. The first half of the book deals with normal contagion and the second half with abnormal.

Assuming that the reflex arc is the fundamental type of neural action, and that the impulse may enter a given sensori-motor circuit from any sense and at any point in the circuit, we may trace a physiological explanation for all the contagious acts, *e. g.,* yawning, laughing, crying, coughing, dancing, marching, etc. Then, on the theory that every emotion tends to express itself in muscular adjustment, that this adjustment may be transmitted by contagion, and that a given emotional expression creates the emotion, the same explanation accounts for the contagion of emotional states *e. g.,* fear in a panic, anger in a revolution, the soldier's adoration of Napoleon, the schools of art and the havocs of intellectual bias. The same principle may also be extended to ideas because all ideas are more or less fused with feeling, *e. g.,* belief, scientific theory, dogma. The idea is contagious in proportion to the feeling present. Good analytic and genetic accounts run parallel to this mode of explanation, and special emphasis is laid on the social conditions and significance of mental contagion. The second part of the book consists largely of citation and classification of cases. The less normal the individual or the group, the more liable to contagion. Like the microbe, the mental contagion may be either beneficent or noxious.

A practical lesson from this book is preeminent: mental contagion is preventable. If insanity and crime are contagious, that principle should be recognized in our penal and corrective institutions; and society may take steps to prevent epidemics of fanaticism and crime. To-day science is interested in the physical microbes of disease; in the near future there will be a similar interest in the facts of mental contagion.

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SCIENTIFIC JOURNALS AND ARTICLES.

The American Journal of Science for January contains the following articles: 'Submarine Great Canyon of the Hudson River,' by J. W. Spencer; 'Radioactivity of Underground Air,' by H. M. Dadourian; 'Types of Limb-Structure in the Triassic Ichthyosauria,'