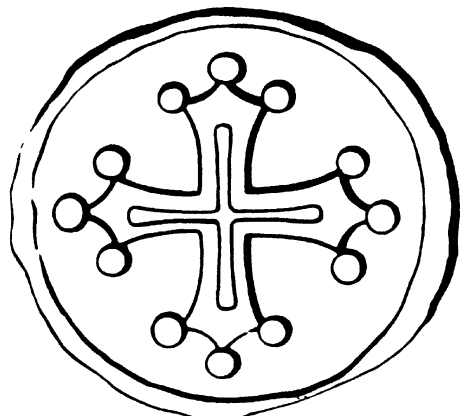


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**ABSTRACTS OF  
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## THE BIOMETRICIAN'S ROLE IN THE THIRD WORLD

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The biometrician's role in the third world is the same as the role of a biometrician from any other part of the world; namely to collaborate with biological scientists in tackling problems for the subsequent benefit of the farmers.

The agricultural problems encountered in the third world are often different from those in temperate areas. Environmental and logistic problems confronting the biologist and biometrician can be very different and problems that have been encountered by the author in third world countries are detailed with possible solutions to some of them.

## SELECTION DANS UNE POPULATION D'INDIVIDUS ISSUS D'UNE PREMIERE SELECTION

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On considère le problème de la sélection basée sur un vecteur d'observations faites sur des individus déjà issus d'une première sélection. On donne une règle optimale de sélection valable quelque soient les lois des variables aléatoires impliquées dans l'expérience. En particulier, on montre que l'usage du BLUP (Best Linear Unbiased Predictor) est légitime sous des conditions plus larges que celles présentées par HENDERSON.

## STATISTICAL ANALYSES OF THE AGE-GROWTH OF THE SKULL AND DENTITION

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Clinical problem: If we have orthodontic problems it is essential to know  
a) which parts of the skull and dentition show an age growth ;  
b) the dimension of this growth.

Design of clinical trial: Front and profile X-ray pictures of the skull were taken of 874 persons between 7 and 15 years of age. 68 anatomically defined points were marked on X-rays.

The positions of these points were plotted by digitiser into an orthogonal coordinates system. The coordinates were stored with other clinical and personal data. From these points 112 characteristic variables were computed. The reliability of the measurement for the variables was investigated.

Statistical Analyses: By means of a nonlinear regression model we investigated which variables show an age-growth. The statistical tolerance interval of each variable of each age group was computed. The interdependence between the variables was investigated by a correlation analysis. The result of this investigation allowed us to reduce the number of variables for the clinical decision making.