1. The question for consideration is a study of the factors which have caused the degradation of pre-desert fauna and the possible means of remediying the situation.

2. I hold the view that there is practically nothing which man can do to prevent this degradation other than to prevent or to curtail the influence of human activities which undoubtedly accelerate this degradation. Africa is a harsh master, and if man endeavors to challenge nature it will take revenge in an unexpected manner — quite unrelated to the object of the challenge.

3. It would seem proper first to attempt an analysis in very general terms of the causes which render an area unattractive to wild fauna (excluding entirely reference to areas which carry sufficient vegetation to burn).

4. My observations relate to East Africa, an area which for many years has been regarded as a paradise for wildlife, and which is, generally speaking, volcanic. Dipping into the middle Pleistocene period displayed in the Olorgesaiie National Park on the bed of the Great Rift Valley, it is clear that there were successive cycles of floods and deserts. From an examination of the eleven different land surfaces visible, it is clear that between these land surfaces there were periods when animal life did not exist, and yet some thousands of years later the waters returned and there is evidence of prehistoric animals in great numbers and of the people who lived mainly upon them. This conveys to me that in any period of living memory it is impossible to assess properly the effects of climatic variation or to formulate any schemes which over a long period would alter or prevent these effects.
5. Thus I contend that areas in East Africa which appear from the observations of the last fifty years to be drying up are probably conforming to a cycle which may be of some thousands of years duration and cannot be altered by any feeble attempts of mere man.

6. I believe, however, without being able to advance any proof, that in the periods displayed at Olorgesailie it is likely that the rest of Africa, or at least a great part of it, carried such an abundance of wildlife that the failure in vegetation of any particular area did not cause the extermination of its denizens, for the simple reason that they had space to migrate. This I regard as the greatest danger to wildlife in Africa today, namely, that as certain regions are denied to wild animals, either through climatic causes or by human activities, there is no sanctuary into which this wildlife can retreat, nor is there any reservoir from which it can replenish on the return of some pluvial period.

7. As an attempt to provide these sanctuaries and reservoirs in East Africa, active steps have been taken and are being taken to set aside certain places as National Parks. These areas, however, in my opinion, do not qualify, either in size or in their suitability generally for fauna, to combat the general diminution of wildlife across the face of Africa.

8. It is for these reasons — and there are others — that I put forward the view, admittedly defeatist in its character, that there is nothing that man can do to prevent progressive restriction of land suitable to wildlife other than to curtail the effects of human activities.

9. In a more constructive vein I believe that there is much that can be done on this latter aspect. In the first place, there is still sufficient room in East Africa, for example, to set aside areas which will be more suitable as reservoirs, given the will and the finance necessary to do so.

10. I also believe that if it were recognized how precarious wildlife generally is, it would be possible to prevent the disastrous destruction of wild animals which goes on daily throughout many parts of East Africa by unlawful native poachers. It is not sufficient in itself to draw a line on a map and label it a National Park or Reserve, and then rest content that the animals within it are safe for all time. Accepting that the National Parks as they exist today in East Africa are insufficient in size and not entirely suitable for long-term preservation, it is logical that where game occurs outside these National Parks every possible endeavor should be made to give it as much protection as
possible, consistent with reasonable human and economic requirements.

11. In examining the reasons why wild animals migrate, I am convinced that the factor which must be placed highest on the list is food in its widest sense. I have seen to my satisfaction many examples of game movements actuated entirely by the search for food. This applies almost entirely to the herbivores, and of course indirectly to the carnivores since they must follow the animals on which they live. There has been inadequate research into the dietetics of wildlife, and although a certain amount of information is available in the province of pastoral research and agricultural research connected with domestic livestock, it is impossible to say what different forms of vegetation are necessary to maintain a large population of wild animals which in order to survive must always be entirely fit.

12. We frequently ponder on the attractiveness of a lush valley of green grass and assume that it would be a heaven for various kinds of wild animals, and yet to our surprise seldom does a living creature feed on it. Further examination would show that the grasses in this valley are hopelessly unattractive to the kind of animals we believe should live there. It is so often wrongly assumed that green grass itself is the only requirement.

13. In the portion of East Africa east of the Rift Valley I have observed that most of the grass eaters — and by this I mean the larger ungulates — are attracted by fire-resistant grasses, and where fire annually reduces the tangled growth it is there that one finds the greatest concentration of the common animals. I realize that fire and its effect are precluded from this discussion, but it must be mentioned in order to show that in the semiarid regions which are the subject of consideration (where fire cannot blaze), we cannot expect to find any quantity of the grass eaters.

14. It is true of course that certain antelopes and even some of the pachyderms can exist either without water or by drinking very infrequently. Even so, without the wide range of vegetation which these animals require, the addition of water by itself is not the solution. Artificial measures either to increase the water or to propagate suitable vegetation will not, in my opinion, prevent the progressive desiccation of the semiarid areas, and consequently the diminution of the wild fauna which can be expected to live in these areas.

15. My conclusion therefore for discussion is as follows:
First, that it is not possible to prevent the spread of deserts when judged over a long period of years.

Secondly, that it is feasible to curtail the acceleration of this desiccation by preventing unnecessary human activities and in particular the unnecessary erosion of the soil.

Thirdly, that greater efforts could be made to prevent the disastrous destruction of wildlife in areas where it is not accorded total preservation, given the will and the finance to do so.

Fourthly, that artificial endeavors to import suitable vegetation or to increase water supplies in semiarid regions are only temporary although possibly desirable palliatives.

Finally, that the only satisfactory long-term policy would be to set aside areas sufficient in size and sufficiently suitable to carry all forms of wildlife, and to accord that wildlife total and proper protection so as to act as reservoirs to replenish semiarid regions when the Almighty is kind enough to revive them into fertile lands.