

To the best of the writer's knowledge and personal experience there are two great names in tropical pedology of the African Continent. These are Milne and Cecil Frederic Charter. Milne's Catena does not require any explanation. It was discovered and very precisely defined by Milne. Then perhaps rediscovered and perhaps misquoted by a number of Scientists and even some Pedologists. Some other pedologists simply ignored it and developed entirely different concepts of soil classification. On the other hand many soil surveyors soil scientists pedologists and, more recently, agriculturalists who have worked in Africa, have benefited from Milne's outstanding contributions to tropical soil science.

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INTRODUCTION

Attempt is made at comparing the soil classification units and concepts of Milne and of Charter. Some implications of these concepts are discussed briefly in so far as both pure and applied pedology are concerned. Some comments and criticism of some outstanding systems of soil classification are discussed very briefly. Some remarks on soil classification in general are made. The paper is inconclusive and leaves much to be desired.

SUMMARY

SOME REMARKS ON MILNE'S CATENA CHARTER'S SOIL ASSOCIATION TOGETHER WITH SOME COMMENTS ON OTHER SYSTEMS OF SOIL CLASSIFICATION  
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Charter had accepted and in fact adopted Milne's catena. In a number of lectures to or discussions with the writer, Charter pointed out that there are other less well known aspects of the soil associations. As an example of what he had in mind he used to quote alluvial soils or soils derived from alluvial deposits. Ancient river terraces, medium aged river terraces, levees, meanders and currently forming river flood plains. Charter was probably one of the first among pedologists who made full use of geomorphology in his approach to African soils. For instance, Charter's discourses on soils associated with various erosion surfaces, penepanes etc together with definitions of alluvial soil associations was in fact a brilliant application and development of Davison theory on the formation of landscapes (Davies - - - -) In fact in the writer's humble opinion, Charter went too far with the theory of Davis and practically ignored such outstanding contributions as those of Penck (-----) and King (-----) However, one day this may be a subject of another paper. To return to Charter's soil association and to conclude this section, it may be said that Charter had added considerably and expanded the concept of Milne's catena

CHARTER'S SOIL ASSOCIATION

To a reader unfamiliar with the concept, it may be defined as a topographic sequence of different soil profiles occurring in a well defined association which repeats itself over areas of varying size; say, from one square mile to hundreds or thousands of square miles. A catena or a physiographic unit if you prefer the second definition (Milne, 1940).

MILNE'S CATENA

Charter is a rather less well known quantity in the scientific world. This is because he was very critical of himself and of other people and consequently comparatively few of his papers were published. However, Charter was a brilliant scientist as well as a very able though sometimes a rather impatient teacher. In fact it was Charter who first showed the present writer a soil profile in Africa in 1951.

However, we have said enough, at this stage about pure  
represented by hundreds of distinct soil profiles.  
and currently forming river flood plains. Each phase being  
and never ending into more recent erosion or deposition surfaces  
attacked and transformed by parallel slope retreat ( -- -- -- )

Gondwana surface represented by distinct soil profiles, being  
rather delapidated staircase. Beginning perhaps from the ancient  
To us the whole continent to Africa is like on old and a

so called geographical bias (Kellog et al.  
or Great or Little Soil Groups) (7th Approximation) without the  
cannot comprehensively classify African soil profiles or pedons  
overselves to a simple and perhaps a vulnerable statement that one  
We will attempt to prove our point but here we shall confine

In another paper (Perrin, Radwanek, Harrop-in preparation)  
tropical soils.

who like their American colleagues, have been trying to classify  
any many other workers who had spent many years in Africa and  
scientists have not paid sufficient attention to Milne, Charter  
his colleagues, the otherwise eminent and very able American  
In the writer's opinion which he hopes to share with many of

is never enough research done on any subject.  
subject. There is nothing further from the truth than this. There  
extensively because there had not been enough research done on the  
themselves admit that tropical soils have been treated rather less  
( -- -- -- ) is one outstanding example though the anonymous authors  
attempts at classifying tropical soils. The Seventh Approximation  
In the last ten years or so there have been many impressive

RESEARCH IN TROPICAL PEDOLOGY

IMPACT OF THE TWO CONCEPTS ON CURRENT

soils had it not been for their untimely deaths.  
much further and had written much needed text books on tropical  
research in tropical soils of Africa. Both would have gone  
that both Milne and Charter had done some outstanding modern  
on this subject. For the time being however, all we will say is  
There is quite a lot that can and no doubt will be written

COMPARATIVE STUDY

*Human Ecology or pedo- morphology of you paper the*

definition.

IMPACT OF THE TWO CONCEPTS ON CURRENT TRENDS IN APPLIED PEDOLOGY

Let us now turn our attention to this rather vital subject which we may refer to as agro - pedology or simply the science or art of land classification, the terms are practically synonymous though perhaps <sup>many</sup> readers will not agree with this contention.

Catenas or soil associations have a definite and considerably helpful application to estate management (AFS Forbes and S.A

Radwanski - a paper in preparation). These concepts can also be

applied to broad scale agricultural planning (Radwanski) and farm

planning; Langdale - Brown and Radwanski - a paper in preparation).

Very briefly, every soil series, or soil associate or a component

profile a catenary or non - catenary association is different from

the agricultural point of view and will require some what different

treatment in order to obtain an optimum response to higher levels of

management. No Agriculturalist Agronomist, Farm Planner, Farmer

can ignore this rather simple statement.

And yet how many ignored it in the past and perhaps are still

ignoring it now with often disastrous consequences in terms of huge

losses of capital, energy and wastage of human skill and knowledge.

CLASSIFICATION IN BROAD SENSE

This highly controversial subject has recently been presented

in many excellent papers Kubiena (Leeper ( . . . ) Muir ( . . . )

The present ~~paper~~ <sup>with</sup> is in complete agreement with Kubiena and in

incomplete agreement with Leeper.

Kubiena is absolutely right in so far as his natural classifica-

tion is concerned. What, if I may be allowed to comment on his excep-

tioned research, he means is that he has discovered a small part

of Truth.

On the other hand Leeper is more sceptical and perhaps more

rigidly scientific in his approach.

REFERENCES

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Again there is very little that can be said at this stage except to say that pedology or soil science is really not science at all. It is a young off-shoot of Philosophy which could perhaps be defined as the art of intelligent thinking and of course, contemplation.

CONCLUSIONS

If I understand him correctly, Leeper does not believe in natural classification. He maintains that once you apply human brain or approach to the classification of such ~~inanimate~~ <sup>inanimate</sup> objects like rocks, minerals, soil particles, boxes of matches etc, your system of classification becomes artificial. And he is right.