GEOLOGICAL SKETCHES AND
OBSERVATIONS, ON VEGETABLE FOSSIL
REMAINS, &C., COLLECTED IN
THE PARISH OF ASHTON-UNDER-LYNE,
FROM THE GREAT SOUTH LANCASHIRE
COAL FIELD, &C. &C. &C.

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Geological Sketches and Observations, on Vegetable Fossil Remains, &C., Collected in the Parish of Ashton-Under-Lyne, from the Great South Lancashire Coal Field, &C. &C. &C. by Charles Clay

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CHARLES CLAY

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ALSO,

AN ATTEMPT TO EXPLAIN
THE ORIGINAL FORMATION

OF THE BARTH,

OW A

THEORY OF COMBINATION.

Illustrated with numerous Wood Cuts, &c.

By CHARLES CLAY, M.R.C.S.E.,

ASHTON-UNDER-LYNE.

"They still remain, Amid the flux of many thousand years, That oft has swept the tolling race of mon And all their laboured menoments away."

LONDON:

Published by H. Johnson, 44, Patermoster-Row; Bancus and Co., Manchester; and Davie, Stalybridge.

1839.

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STALYBRIDGE:
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DEDICATED, BY PERMISSION,

TO THE RIGHT HONOURABLE

THE

EARL OF STAMFORD AND WARRINGTON,

LORD OF THE MANOR

OF

ASHTON-UNDER-LYNE,

WITH ALL POSSIBLE RESPECT, BY HIS LORDSHIP'S

RESPECTFUL AND HUMBLE SERVANT,

CHARLES CLAY, SURGEON.

TO THE RIGHT HONOURABLE

THE BARE OF

STAMFORD AND WARRINGTON.

MY LORD,

It is with feelings of gratitude I acknowledge your Lordship's kindness in allowing me the honour of prefixing your name to this little Volume of Geological Sketches.

Should it have the good fortune to meet the eye of your Lordship, it is the sincere wish of the Author that its contents may be found strictly consistent with truth, and free from the slightest tendency of injuring the noblest Institutions of our Country.

That your Lordship may long live to enjoy the fruits of the many improvements now progressing in your Lordships' estates, to the increased satisfaction of your numerous tenantry, is the earnest prayer of

Yours,

Most respectfully,

C. CLAY.

Ashton, January 1st, 1839.

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PREFACE.

In offering the following observations to the notice of the public in general, the object of the author will be answered if they contribute in the least degree to the advancement of the science on which they are founded, viz., the science of Geology. Having been engaged for some years past in examining the fossil remains of his own immediate neighbourhood, the result, he has presumed, might not be uninteresting to others. In pursuing these inquiries he admits that the field of his observations has been extremely limited; yet, while he was once perusing that beautiful little work on the natural history of Selbourne, by Mr. White, the idea forcibly presented itself that if more attention were paid by writers to such facts as came under their own every-day observation, the progress of

PREFACE.

knowledge might be more rapid, and probably much more satisfactory. This idea has led to the publication of the following pages; and if they contribute to the amusement of the general reader, or tend in the slightest degree to the advancement of geological science, the author will feel amply rewarded, and in no way regret the time they have occupied. The combined Theory which forms the concluding part of the work, may, by some, be supposed too fanciful, and therefore unworthy of general acceptation. It may be so. But when we consider that all our researches after knowledge impress our minds with views peculiar to the subject of our study, it will surely appear not unreasonable, and therefore not unwarrantable. to present those views to others, provided they do not oppose either the general laws of nature or the still more infallible guidance of that inspired communication, which is the source of all wisdom, and the basis of all knowledge. I have long dissented from the popular notion that theories retard the progress of any science, and very much question if the present improved state of geological inquiry does not dwe its present importance to the indefatigable exertions of early writers in searching for and ascertaining facts in support of