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### Re-reading *The Teaching of Geography* by A. Geikie

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The pages that follow are taken from a textbook of geography published in London by MacMillan in 1887. The Author of the book, whose full title is *The Teaching of Geography. Suggestions regarding principles and methods for the use of teachers*, was Sir Archibald Geikie (28 December 1835 – 10 November 1924), a Scottish geologist.

Geikie, who was appointed an assistant on the British Geological Survey in 1855 and a fellow on the Royal Society in 1865, has been an important scholar in the fields of geology and physical geography; he received, among other honors, the Murchison Medal in 1881, the Wollaston Medal in 1895 and the Royal Medal in 1896. He was appointed professor of geology and mineralogy at the University of Edinburgh in 1871, the first person to occupy the Murchison chair. Besides being recognized as one of the leading scholars of his time, he was a prolific writer, and published several works, aimed at both the scientific community and a larger audience of readers. Among his many works, one can mention *Scenery of Scotland* (1865), *The Ancient Volcanoes of Great Britain* (1897), *The Geology of Central and Western Fife and Kinross* (1900), *The Geology of Eastern Fife* (1902). Geikie was also a passionate scholar in the history of scientific

research in Great Britain; an interest that brought him to the publication of the book *Founders of Geology* (1897). His scientific interest also went beyond the field of geology, to touch the field of physical geography and history of landscapes. For this reason, it is interesting to read a few pages from his successful book *The Teaching of Geography*, which received a large attention and became a widely distributed textbook.

We present here the first two chapters of the book: *Chapter I*, which is an introduction to the text, and *Chapter II*, dedicated to the *General Principles* of the discipline. In the first chapter, the captions at the top of the pages that illustrate the content explain that the Author's goal is to sketch the "aims of geography", together with the "aims of the teacher", in teaching this discipline. In the second chapter, the Author speaks of the "use of class-books", the importance of "teaching from home examples" and "personal observations of pupils", the necessity of the "avoidance of mere task-work", the importance of the "lessons out of doors" and of the "first lessons on maps". The choice of presenting here only the first two chapters aims at providing just a sample of Geikie's thought, and at offering a taste of what the discussion about teaching geography looked like in its times.

Even though Geikie was a supporter of the centrality of geology, and saw physical geography as a secondary field emanating from the main geological field, his scientific thoughts do pay large attention to the role of human actions and to the role of history in shaping the landscape. This inclination to emphasize the

strong ties between physical geography and human geography is one of the most interesting aspects of Geikie's work, as it is perceivable since the very *incipit* of his work, when he suggests that geography "seeks to present a distinct and luminous picture of man's surroundings – the earth he walks upon, the air he breathes, the waters that fertilise his fields, the oceans that bear him from continent to continent, the living things that minister to his existence and enjoyment alike on land and sea" (p. 1)<sup>1</sup>.

Geikie openly speaks of the necessity to investigate the "well-being of man": "[Geography] accepts from these various sciences the facts which they determine and the conclusions which they establish, but selects, in preference, those facts and conclusions which bear most closely upon the well-being of man [...]" (p. 1). This reference to human well-being opens interesting links with contemporary geographical studies, which concentrate in the role of landscape appreciation as an important identity component for local societies, as the *European Landscape Convention* states in its preamble, using the very word "well-being": "Aware that the landscape contributes to the formation of local cultures and that it is a basic component of the European natural and cultural heritage, contributing to human well-being and consolidation of the European identity".

Sometimes there are hints of determinism, such as the passage in which Geikie states that by "connecting this local detail with human history, Geography notes how largely it has influenced the progress of political events, how, for example, it has directed the migration of peoples, guided or arrested the tide of conquest, moulded national character, or given its own colouring to national mythology and literature" (p. 2). We have to contextualize, of course, the historical and cultural atmosphere of the Author's times, when a scientific determinist approach was widely adopted.

The Author suggests to use a comparative method in teaching geography, inviting the students

to compare different situations and contexts, by starting from the familiar elements to understand more and more distant and abstract situations. Another aspect that strictly connects Geikie's perspectives on the teaching of geography with current contemporary practices in the field is linked to the deep interdisciplinary nature of the discipline, that Geikie sees as the ideal link between science and history. The necessity to link a sound scientific knowledge of physical geography with the multifaceted analysis of the temporal evolution of the territories marks, in the Author's perspective, the specificity of the geographical approach.

In Chapter II Geikie gives some practical suggestions in teaching geography, emphasizing the importance of drawing from the students' personal experiences, starting from the surrounding environment, using the textbook as a flexible tool and not as a rigid scheme of learning, stimulating the direct observation of the environment, using maps and not being afraid to "dirty one's shoes" in exploring the territory. These invitations remain strikingly valid in our times. Reading these pages, which were written one hundred and thirty years ago, helps us in facing the continuous challenges of teaching geography today, relying on the experiences and suggestions coming from the illustrious tradition of the discipline.

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<sup>1</sup> Gender correctness was, of course, still to come in Geikie's times; all the references to human beings are still rigorously declinated as masculine.

## The Teaching of Geography<sup>2</sup>

Archibald Geikie

### Chapter I - Introductory

Geography is commonly defined as a description of the earth. But it deals more specially with the earth as the dwelling-place of Man. It seeks to present a distinct and luminous picture of man's surroundings — the earth he walks upon, the air he breathes, the waters that fertilise his fields, the oceans that bear him from continent to continent, the living things that minister to his existence and enjoyment alike on land and sea. Every department of Nature has its own particular science, in which the minutest intricacies of structure and of process are patiently unravelled, and the facts are classified and arranged in their relations to each other and to the general system of the world. But Geography does not attempt such detailed investigation. It accepts from these various sciences the facts which they determine and the conclusions which they establish, but selects, in preference, those facts and conclusions which bear most closely upon the well-being of man, or which enable us most clearly to comprehend the general plan of the marvellous creation wherein we form a part. Thus, the aspects of the globe, as they present themselves to ordinary human intelligence, and the ever-changing phenomena that surround us and influence our daily life, are the peculiar domain of Geography.

Except the history and experience of man himself, there is no subject of inquiry that yields so profound and perennial a human interest as the story of the globe on which we dwell. We are surrounded with phenomena that ceaselessly press themselves upon our notice. Our existence

and enjoyment rest upon the continuance of the favourable conditions in which we live. As even a slight variation in these conditions may powerfully affect us for good or evil, they are a subject of momentous importance to us. We know that they differ greatly in different quarters of the globe, and we can hardly avoid some curiosity to learn on what circumstances such varying environment depends. It is the special function of Geography to direct our attention to these matters, to increase our knowledge of the country we live in, and thence to trace analogies and contrasts among the aspects of Nature in other regions of the globe. Geography compares the topography of one continent with that of another, dwelling upon the fundamental elements of each, and showing how they have affected the distribution and development of the human population. Mountains and valleys, hills and plains, rivers and lakes appear in region after region with ever the same essential features, but with endless diversity of local detail. Connecting this local detail with human history. Geography notes how largely it has influenced the progress of political events, how, for example, it has directed the migration of peoples, guided or arrested the tide of conquest, moulded national character, or given its own colouring to national mythology and literature. Geography further contrasts the climates of the globe, calls attention to the varying phases of plant and animal life by which they are accompanied, and traces their influence upon the march of discovery and the spread of civilisation and commerce.

In gathering the materials for this comprehensive picture of the earth as the dwelling-place of man, Geography culls freely from almost every branch of natural science. The facts and inferences which are in this way gathered from all corners of the globe demand for their adequate comprehension something more than mere book learning. The geographer should himself be an observer of Nature, He may know only a very limited space in the wide domains of scientific acquirement; but his knowledge of that space should be thorough enough to enable him duly to appreciate habits of observation, methods of research, and processes of reasoning in other departments of inquiry. His sympathies should be wide and

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<sup>2</sup> The present text is taken from the 1887 MacMillan edition. After the name of the Author, the following information was provided in the original text: "Director-general of the Geological Survey of the United Kingdom: Formerly Murchison Professor of Geology in the University of Edinburgh". The version presented here keeps the original format of the text (for instance in the use of Italics and brackets, and in the words spelling, as in the case of "to-day").

deep, embracing all parts of Nature, even those with which he has been able to make no personal acquaintance. This breadth of vision keeps him in touch with the progress of discovery. He is ever ready to detect the geographical significance of new observations, and to appropriate for his own subject the results obtained in the most widely-separated fields of scientific research.

What is true of the professed geographer holds also, in large measure, for those who teach geography. The teacher who would gain the greatest amount of personal enjoyment from the cultivation of this subject, and who would most successfully use it as a discipline in the education of others, should, as far as he can, make himself acquainted with the practical pursuit of at least one department of natural knowledge. The man who has once dissected a plant and practically studied the mutual relations and functions of its several parts, or who has himself traced the connection between the topography of a district and the nature of its underlying rocks, has acquired an experience which gives to his teaching of these subjects a precision and vividness that could never be gained from books. And in proportion as he cultivates the spirit and habit of personal observation and inquiry will his labours among the young be fruitful to them and satisfactory to himself. I do not, of course, mean to imply that good geographical instruction is impossible without scientific acquirement on the part of the instructor. But I would insist that as geography, though it may not claim to be itself a distinct science, is based upon the work of many sciences, its full value as an instrument of education cannot be obtained except by those who are imbued with the scientific spirit.

But Geography rests not only upon the facts and deductions of natural science. Its obligations are hardly less extensive to the department of history. In many systems of education, indeed, it ranks merely as a branch of history. It is not content with tracing the present distribution of the races and nations of mankind. It seeks to picture older groupings out of which those of today have been developed, and to follow backward the successive stages of progress to the times of earliest history or tradition. All that may be gathered from written chronicle, or that

may have been preserved in the names of places, or that may be inferred from the language and lineaments of a people, comes within the scope of the geographer's inquiry. And it is by availing himself of these manifold sources of information that he completes the political side of the picture which he draws of the geography of a country.

If this sketch of the scope and aim of Geography be accepted, it is evident that the study of the subject may be made a discipline of a high order in education. Instead of being a mere exercise of the memory, as it has so often been treated, geography steps at once into a foremost place among school subjects as an instrument for training various mental qualities that are hardly reached at all by the other branches of an ordinary curriculum. In the first place, and above all, it calls out into active exercise the observing faculty which is otherwise left wellnigh dormant in the ordinary tasks of school. It stimulates the reasoning powers, by teaching the value of the classification and co-ordination of facts and the methods of scientific induction. It affords ample exercise of the memory, but not in the mere mechanical way implied in the learning by rote of tables of figures and pages of statistics. It supplies invaluable information about innumerable familiar objects and aspects of Nature, and excites an interest in these that gives a new charm to every country walk. It furnishes a just conception of the fatherland in all its aspects, and passes thence to broad and intelligent views of the world at large. By thus widening the youthful experience of men and things it helps to stimulate habits of reflection and self-reliance, and strengthens the character for the future affairs of life.

To keep Geography on this high platform in the education of the country obviously requires a race of specially trained teachers. But there does not yet exist among us any provision for the acquisition of this special training. The teachers must in the meanwhile train themselves. In this self-imposed task their chief difficulty lies in the vastness of the field of inquiry, and the vagueness of its boundaries. They can hardly discover where to begin, or having begun, how to choose out of the overwhelming multiplicity of detail those parts which are really of service for geo- graphical purposes. And even where

they have made some progress in self-instruction the momentous problem still confronts them how to make the subject genuinely interesting and useful to their pupils.

Now it must be honestly admitted at the outset that there is no short cut or royal road to success in the teaching of Geography. No cramming or "getting up" the lesson can lead to any satisfactory result. The teacher must be content patiently and thoroughly to master his subject and to watch and measure the progress of his scholars by his own solid advancement. He should begin by divesting himself of the common notion that the teaching of geography can be taken up by anybody. When he has realised what geography in the true sense is, he will recognise that to make satisfactory use of it for purposes of instruction demands qualifications of no mean or ordinary kind. He will see that a wide range of reading is absolutely necessary to him, and that he must equip himself with such a store of illustrations gathered from all departments of knowledge as will enable him to elucidate each subject as it arises in the course of his tuition. He will perceive also how needful it is that he should himself possess such a practical acquaintance with his subject as mere reading will not give unless confirmed by observation and reflection. Thus furnished, he will find himself in large measure independent of class-books. Instead of contenting himself with hearing his pupils repeat a lesson which they have got by heart, he will make the lesson a text from which, out of his own stores of knowledge, he will lighten up the subject till even the dullest boy can hardly fail to understand and take interest in it.

This is the ideal of geographical teaching at which, in my opinion, we should aim. And until some approach to it is reached I cannot believe that geography will take the place which it is entitled to hold in our educational system. Already there are among us not a few admirable teachers imbued with the true geographical spirit, but whose efforts are hampered by the use-and-wont bondage under which the teaching of geography has so long lain. Their number will doubtless steadily increase, for the day can hardly now be far distant when adequate provision will be made for the systematic

training of teachers in the methods of geographical instruction.

In the meanwhile I offer these chapters, not as a formal treatise on the teaching of geography, but rather as a series of hints and suggestions with reference mainly to the elementary stage of the subject. These might be almost indefinitely extended and varied. But they will, I trust, suffice to make clear the spirit and method which, in my belief, ought to be maintained in this department of education. One distinguishing feature of this method is the wide scope which it affords for the manifestation of the individual character and special qualifications of the teacher himself. Another is the infinite variety which arises from differences in the local topography, natural history, historical associations, industries, and other circumstances of the environment. But amid all these diversities the same principles of treatment may be followed and the same ultimate educational results may be obtained. How this end is to be gained will, I hope, be gathered from the following pages.

## **Chapter II - General principles**

In the teaching of geography, as in instruction of every kind, the fundamental condition for success is that the teacher has so thoroughly mastered the subject himself, and takes so much real interest in it, that he can speak to his pupils about it, not in the set phrases of a class-book, but out of the fulness of his own knowledge, being quick to draw his most effective illustrations from the daily experience of those to whom he addresses himself. If the aim of geography should be what is sketched in the fore-going chapter, it will be evident that a groundwork of preparation for the study of this branch of knowledge should be laid at an early age and in subjects that are not generally regarded as part of geography. The lessons may be begun almost with the very commencement of school-life. The attention of the children should be directed to what lies around them. The commonest facts of everyday experience supply endless material for profitable instruction, and the proper use of them furnishes a kind of

mental discipline which is hardly otherwise obtainable.

In dealing with the young we should try to feel ourselves young again, to see things as they are seen by young eyes, to realise the difficulties that lie in the way of children's appreciation of the world around them, to be filled with an abounding sympathy which subdues all impatience on our side, and calls out on the side of the children their confidence and affection. Mutual sympathy and esteem are a pledge of enduring success. To cement this bond of union between teacher and taught there should be no set tasks for some considerable time. The lessons ought rather to be pleasant conversations about familiar things. The pupils should be asked questions such as they can readily answer, and the answering of which causes them to reflect and gives them confidence in themselves and freedom with their teacher. The objects in the schoolroom, in the playground, on the road to school, should be made use of as subjects for such questionings, with the aim of drawing out the knowledge acquired by the pupils from their own observation. Every question should be one which requires for its answer that the children have actually seen something with their own eyes and have taken mental note of it. The putting of such questions stimulates the observing faculty, and not infrequently gives a chance of distinction to boys and girls whose capabilities are not well tested by the ordinary lessons of school. No teacher who has not tried this method of instruction can realise how much pleasure it gives to the pupils, and how greatly it tends to stimulate their mental progress. A fact discovered by the child for himself through his own direct observation becomes a part of his being, and is infinitely more to him than the same fact learnt from hearsay or acquired from a lesson-book. The idea of discovery should be encouraged in every way among children. We should remember that to them the whole of Nature is an unknown world into which their young souls, timidly or adventurously as may be, must advance. If we can help them to push forward boldly and see things for themselves we do them an inestimable service, not only adding to the joy of their childhood but kindling for them a light that will illumine all their future life. I hope to be able to show that this principle

of discovery may be carried into departments of geographical teaching which might be supposed to offer but little scope for its exercise.

To begin the teaching of geography with formal lessons on the shape of the earth, parallels, meridians, equator, poles, and the rest, is to start at the wrong end. To the average boy or girl of six or seven years these details have no meaning and no interest. Their introduction on the very threshold of geographical instruction is a characteristic feature of our system or rather want of system in this department of education. They are very generally placed at the beginning of our class-books, and being there they form, as a matter of course, the subjects of the first lessons usually given in geography. An altogether inordinate value is set by us upon class-books. Instead of serving as they ought, merely to furnish the text for the fuller and more interesting exposition of the teacher, these books are for the most part slavishly followed. The lesson of the day too often consists in the repetition by rote of so many sentences or paragraphs from the class-book, which are seldom expanded or made more attractive and intelligible by elucidation on the part of the teacher. Such instruction, if it may be so called, is bad for the teacher and worse for the taught. It is especially pernicious to the children in the earlier stages of their geographical studies, for it tortures their memories and brings no compensating advantage. It fosters idleness and listlessness on the part of the teacher, who instead of exerting his faculties to invest the subject with a living interest becomes for the time a mere machine, mechanically acting within the limits prescribed in the class-book.

This kind of teaching only by rote ought to be strenuously abolished. What is imperatively needed is that geography should become a thoroughly effective and valuable educational discipline. For this end, children should, as early as possible, be taught to use their own eyes in observing what lies around them, and their own judgment in drawing conclusions from what they see. Only after they have made some progress in this direction should they be called upon to begin the formal lessons of class-books. And as far as possible the facts stated in the class-books should be verified or illustrated by others that lie within the personal experience of

the pupils. To read Nature only through what Dryden called "the spectacles of books" is a hurtful habit, which is only too apt to weaken our mental vision and to prevent us from seeing clearly and intelligently what passes before our eyes. To enforce this habit upon the young by making them gather their ideas of geography from the sentences of a class-book rather than from the face of Nature is a serious injury to them.

I would therefore advocate that all the preliminary notions of geography should be acquired without the use of any class-book by the young pupils. These elementary conceptions can be gained more intelligently and thoroughly by a system of oral instruction, in which actual observation by the pupil plays a main part. The subjects of the earliest lessons should be taken from the familiar things of everyday experience. Remote though these may at first seem from the limits of what is commonly recognised as geography, they may be made to train the eye and the mind, so as to prepare the way for thoroughly satisfactory progress in geographical acquirement. It is obvious that an intelligent acquaintance with what immediately surrounds us ought to underlie any knowledge of things and places at a distance from us. The study of geography ought to begin at home, and from a basis of actual personal experience should advance to the consideration of other countries and of the earth as a whole.

But while laying his foundations broadly in this way, and widening the knowledge of his pupils, the teacher will do well to keep clearly before him some definite goal towards which the discipline of the elementary stage is to lead up. Probably no object can be suggested more fitting for this purpose than the thorough comprehension of a map. The power of understanding a map and getting from it all the information it can afford, is an acquisition which lies at the base of all sound geographical progress. Yet how large a proportion, even of the educated part of the community, have only a limited and imperfect conception of the full meaning and uses of a map. It should be, in my opinion, the teacher's main aim in the first or elementary stage of instruction to make the understanding of a map, and the capability of adequately using it, the great end to be kept in

view, and no pupil who has not mastered this acquirement should be allowed to pass into a higher grade. How this task may be attempted I shall try to sketch in succeeding chapters.

There is happily now a growing recognition of the principle that adequate geographical conceptions are best gained by observations made at the home locality. The school and its surroundings form the natural basis from which all subsequent geographical acquirement proceeds. Upon a groundwork of actual observation and measurement the young mind is led forward in a firm and steady progress. The schoolroom and playground serve as units from which an estimate is gradually formed of the relative proportions of more distant objects and places.

Such elementary notions as those of relative size and distance can be effectively taught and impressed upon the imagination and the memory by causing the pupils to make actual measurements, which may be done at first by pacing, and afterwards with a yard-measure or tape-line. The dimensions of the class-room being ascertained, they may then be compared with those of the school buildings and next with the playground, and by degrees a just conception of the proportions between the home locality and the rest of the country is built up. One of the collateral advantages of this practical method of learning the subject lies in the bodily exercise which it involves. A child likes to be actively doing something, and is delighted to exchange a lesson in spelling or arithmetic for a measured march along the schoolroom floor or across the playground. It is easy to take care that while the amusement afforded by such exercises is not unsympathetically repressed, it shall not in any way interfere with the practical good to be derived from them.

In taking the school surroundings as the basis of instruction, the teacher will readily recognise that while the principle of his method remains the same, its details must necessarily vary according to the circumstances of the locality. The two most obvious distinctions are those of town and country. In a town, illustrations of the political side of geography are most prominent; in the country, it is the physical side that especially invites attention. As the facts of

physical geography are simpler and more obvious than those of political geography, they offer greater facilities for elementary instruction. Hence a country schoolmaster is placed in the best conditions for effective geographical teaching. The face of Nature lies uncovered before him and affords him endless illustrations of his subject. A teacher in a large city stands in a less favourable position. The original aspect of the ground is concealed under streets and houses, and he may have to go far afield for examples of some of the most familiar physical features. On the other hand, as regards the political aspect of geography his position gives him many peculiar advantages. But, sustained by a living interest in his subject, a teacher will discover much even in the most unpromising circumstances which may be turned to account in laying the foundation of a thorough geographical training, as I shall endeavour to illustrate in later pages.

Not only should no class-books be assigned to the pupils in the elementary stage. The lessons should be as informal as possible. Anything approaching to a style of lecturing should be carefully avoided. Instead of appearing to discourse himself, the teacher should aim at obtaining clear articulate expression of the knowledge and experience of the children. The more homely and conversational he can make himself, consistent with their retention of due respect for him, the more will he win their confidence, the greater will be his hold upon them, and the more readily will they understand and remember the subjects which he brings before them. He will do well in the early stage to make no attempt at being strictly systematic in his choice and treatment of the topics of the lessons. It is often of advantage to let the lesson be suggested by some incident of the day, or something that has arrested notice since the previous lesson. The attention of the children is thereby riveted to the subject. They are ready to say all that they know about it, and eager to hear anything more which the teacher may tell them. New ideas communicated to them in this way take hold of their imagination and sink into their memory. A large amount of useful information may thus be given, while at the same time the young minds are being gradually prepared for

entering upon the proper field of geographical instruction.

In all these lessons, the system of question and answer must be scrupulously followed. The teacher should so frame his questions as to draw out what the children have actually seen and thought out for themselves, and he should at once stop and call attention to any statement evidently based, not on personal observation or reflection, but on hearsay. If, for instance, a boy in the elementary stage were to describe coal as the remains of plants turned into stone, or to speak of air as a mixture of two gases, or to allude to the earth revolving round the sun, he should be immediately checked and allowed only to say on each of these subjects what he might himself have seen or thought. Considerable reflection and experience are needed so to frame the question as to avoid extracting mere secondhand knowledge. The great object of the master should be to make the scholars observe and reflect, and he can best attain this end by throwing himself into the mood of the young mind, and by asking nothing which would involve knowledge beyond the attainments of the pupils, until he has satisfied himself as to the limits of these attainments. He may then judiciously sum up what has been gained during the lesson from the united experience of the whole class, and supplement it by filling in some of the more notable gaps. But the additions thus made by him to the common stock of acquirement should never be too preponderating a feature in the earlier lessons, and should come as naturally suggested by what has been obtained from the class.

Of the method here recommended one or two illustrations may be given. A wet morning will profitably suggest a lesson on rain. Of the younger children only the most elementary and obvious facts should be asked, such, for instance, as that rain is water; that it comes from the skies, that it descends in drops which unite into pools or trickle on the ground, that it sinks into the soil and flows away, that it wets, that it refreshes the grass and the flowers, that it comes on dull, cloudy days, rather than on sunny days; and so on until the juvenile experience has been exhausted. Then the teacher will put together into one connected narrative all that he has drawn from the class, together with such



additional facts by way of connecting links, as he thinks their intelligence will easily follow. But afterwards, as the children gain knowledge, he may return to the subject, and suggest observations and reflections arising out of the facts already gathered, for instance, that wet things dry again, and what becomes of the water they contained; that rain comes from the clouds, and how clouds are formed; that rain fills wells, springs, and rivers; and so by degrees to the general system of circulation of water over the surface of the earth. The replenishing of the schoolroom fire with coal will furnish materials for another lesson of a more advanced kind. First, all that the children may be expected to know from their own observation or reflection is extracted by question and answer, and then the teacher proceeds to tell about the nature and origin of coal, and the work of coal-miners. The flitting of a butterfly through the open window of the schoolroom will suggest a lesson on insect life, and give the teacher an opportunity of unfolding some of the wonders of the animal world and enforcing a reverence and sympathy for all living things. In short, his eye should be ever on the watch for materials on which he can train the observing and reflecting faculties of his scholars. If an incident likely to be of this useful kind should occur even in the midst of a lesson on another subject, he may profitably interrupt the work to direct attention to it that it may be distinctly seen, and he can afterwards at the proper time return to the elucidation of it.

Lessons after this method ought to be removed as far as possible from any look of task-work. They should be bright, lively, and genuinely interesting even to the dullest boy or girl. By avoiding anything in the nature of a task to be committed to memory at home, and by making the pupils themselves in great measure the sources of the information elicited by the questioning, the master keeps up the attention of the class from beginning to end. The geography lesson thus comes to be longed for as the most enjoyable of all in the routine of school-life. And its effects are soon appreciable, not only in school, but at home and by the wayside. As the questionings of the teacher embrace all the familiar objects of everyday life, the eyes of the pupils are quickened to take notice of what would otherwise have escaped them. A new

interest is given to their surroundings; they are encouraged to reflect and to trace the connection between the facts which come under their observation. And thus their judgment is strengthened, while their powers of perception are developed.

A child does not at first perceive the relations of things to each other, and no attempt should be made for some time to point these out. It is enough to induce him to look at the things themselves, and be able to recognise them. He readily enough detects resemblances whether real or fanciful; he should be trained to notice differences. By degrees, as he gains familiarity with things, their connections will be gradually perceived by him, and may then be made the subject of fuller explanation. For example, the connection of the changes in the atmosphere with the influence of the sun upon the surface of our planet cannot be explained or understood until a large array of facts has been mastered. The formation of clouds, the fall of rain, the movements of the winds, may all, however, be observed and elucidated, and may be grasped by the pupils as facts before their marvellous connection and dependence upon solar radiation are touched upon. Deductions and principles to which the pupils have been in this way gradually led up through a series of observed facts are apprehended with a vividness and joy attainable in no other way.

Whatever will contribute to the force of the mental impression made by the lessons may be usefully employed by the teacher. Objects of natural history are of the utmost service in this respect. Samples of raw and manufactured articles are likewise of great value. Diagrams, especially views of scenery and drawings of plants and animals, are indispensable as supplying pictorial representations of objects which cannot for the most part be seen by the pupils. Suppose, for instance, that a lesson has been suggested by the wooden benches of the schoolroom. All that the pupils can tell about the material should be drawn from them by judicious questioning — its origin from pine-trees, the form and scenery of these trees, the characters of the foliage and seed-cones and other facts which may be known. But it will often happen, as for example in large towns, that no specimens of coniferous trees are to be seen,

and even in wooded districts it may not be possible to find samples of larch, spruce, or pine. In any case, a keen interest is taken in the exhibition of an actual branch of the tree itself with its spikey leaflets and attached cones, and the mental picture of the object is enlarged and illumined by the presentation of a diagram of a pine-forest with its huge gaunt trunks swinging their shaggy arms toward each other, while perhaps a bear or a reindeer is represented wandering among their shadows, or an eagle soars across the sky above them. Or should the lesson be taken from the dress of the scholars, a silk neck-tie will furnish to those of more advanced years a memorable lesson on the silk-worm and the silk industry. In illustration of such a lesson, a specimen or, failing that, a drawing of the moth is regarded with great interest by the young learners, and still more a sample of the cocoon and an explanation of the way in which the fibre is unwound and spun. The neck-tie may not thenceforth be more prized for decoration or warmth, but at all events it possesses a new kind of interest, and it has been the means of opening a new chapter in the youthful experience of the world.

In many cases, teacher and pupils may collect the objects for illustrating the lessons. Where possible this ought on every occasion to be done, and the circumstances where the practice can be followed are more frequent than might be supposed. The teacher should from the first realise that some of the most valuable parts of the training his pupils can receive are not attainable within the walls of the class-room. Where practicable he should himself take walks with his pupils and direct their attention to the objects to be seen as they go. There are no doubt practical difficulties in the way of carrying out this method, but these are generally not insurmountable, as I shall endeavour to show in a later chapter. It is hardly possible to overrate the benefit that arises from this co-operation of teacher and taught in the open air. The restraints of the schoolroom are suspended without giving way to the licence of the playground; there is a freer and friendlier intercourse, not only between master and pupil, but among the pupils themselves. The most timid and the most forward are placed on the same footing, the retiring pupils of the ordinary class-work not

infrequently coming well to the front by their quickness of perception and swiftness of inference. A teacher full of enthusiasm for Nature, and ready to share his love for it with his scholars, is sure to find his way to their hearts, to kindle in all of them a respect and in some of them a love for the objects of his own affection. He may not be in any sense a naturalist, and may not dream of making naturalists of his pupils. But by directing their eyes to the outer world and leading them to take reverent heed to what may there be seen, he fills their minds with a healthy influence, while at the same time he powerfully stimulates their powers of observation and deduction, and thus contributes in a most important degree towards their education.

Class excursions are of course most advantageously undertaken in the country, where indeed they ought always to form a prominent and essential part of the work of the school. But they may also be profitably conducted in a large town — even in a wilderness of streets and houses, such as London, the skilful teacher will find topics of interest for every walk. Materials of construction, contrasted styles of architecture, the distribution and uses of public buildings, historical sites and associations, trades and industries — these and many other subjects will suggest themselves for delightful and profitable rambles through even the most crowded thoroughfares.

The chief danger in such class excursions is lest the pupils get out of the proper control of the master — a danger more especially liable to arise in towns. To guard against this risk, the number of pupils should never be so large as to be beyond ready and efficient restraint. At first it had better be rather smaller than the number which the teacher can easily manage. As he gains experience and confidence in his control and knowledge of the individual characters of the pupils he may increase the attendance. Much assistance may be derived from the employment of older scholars as monitors responsible for four or five of their juniors, and where this method of co-operation is available the number of excursionists may obviously be considerably extended.

When some progress has been made in elementary geographical conceptions, the black-board should be brought into increasing use. After the schoolroom, for example, has been paced, and its dimensions and proportions have been thus ascertained, its plan should be drawn on the board by the teacher, with the relative positions of door, windows, and fireplace. From this beginning, gradual steps may be taken until the pupils can themselves draw on the board and on their slates rough plans of the school and of the playground. At first it will be sufficient to aim only at a general resemblance of proportion. The great object is to teach the young minds to realise the relations between the actual boundaries and the artificial representations of them. To succeed in this is by no means so easy as might be thought, but success in it is absolutely necessary and must be attained no matter at what expenditure of time and labour. When it has been achieved efforts should next be made to depict the plan to scale, and with a nearer approach to correctness.

These lessons in plan-drawing lead up to the thorough comprehension of a map which, as I have said, ought to be the great goal to be kept in view for the elementary stage of geographical instruction. From the school and its playground, the drawings on the board may proceed to take in some of the school surroundings — the roads by which the children come from different quarters to school, with some of the more prominent objects by the wayside. Plans

on different scales should be drawn and repeated in many different ways until the idea of relative proportions has been completely understood. Of course detailed accuracy of surveying is not to be aimed at. This should be reserved for an advanced stage when actual measurements and angles may be taken. Neatness of execution, however, should be insisted upon from an early stage in plan-drawing.

What I have said in this chapter refers mainly to the more elementary part of geographical teaching, and I would conclude this introductory chapter by insisting on the need for constant repetition and revision. It is hardly possible to overrate the importance of continuing this practice until the fundamental conceptions in geography are thoroughly mastered. We are too apt to be anxious to show progress and to push the pupils on at a faster rate than they can move. We are tempted to assume a knowledge which they do not possess, and to take for granted that what we have laboured to reduce to its simplest expression has been actually assimilated by them. There is no better way of testing and ensuring progress than by constant repetition. The teacher, however, may make the revision full of interest by letting light from all sides play round the facts already brought to notice until they are entirely grasped. New aspects and presentations of the old facts give them fresh value and help to fix them more firmly in the memory.