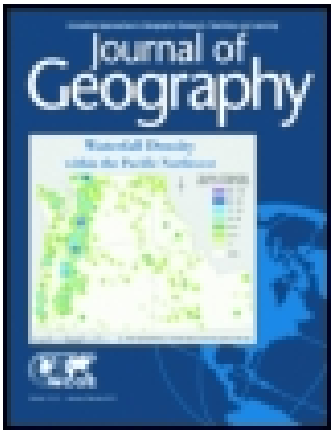

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NOTES.

THE DIVERSE NAMING OF THE WESTERN MOUNTAIN REGION OF AMERICA AS A WHOLE.—The question of the best general title for the western mountains may be considered as trite by those who do not feel the immediate need of its solution in their professional work. The writer by no means believes it to be trite, as he now completely realizes the wide latitude in naming among the recent influential publications dealing with North American geography. It is scarcely to the credit of our geographical societies and alpine clubs that they will publish at length the statement of one traveler that he found mosquitoes in Newfoundland, of another that his hotel accommodation in Manila was bad, and leave undiscussed the suggestive paper of Prof. Russell and his correspondents on the names of the larger geographical features of North America.[1] There would be no advantage to the European geographers if the Alps masqueraded under a dozen different general titles dependent on the personal tastes of individual writers on those mountains.

It is well known that one of the first designations of the entire mountain group lying between the Pacific and the Great Plains was due to Humboldt. His "Cordilleras of the Andes" extended from Cape Horn to the mouth of the Mackenzie river. Humboldt occasionally used the singular form "Cordillera of the Andes" for the same concept. In view of the general restriction of the term "Andes" to the mountains of South America, Whitney, in 1868, proposed that the name "Cordilleras," with variants, "Cordilleran System" and "Cordilleran Region," be retained to designate the North American equivalent of the Andes. This name was adopted in the United States census reports for 1870 and 1880, and by a great number of expert geologists and geographers since 1868. In process of time, however, the singular form, "Cordillera," and variants, became used in the same sense. In one of these forms the Humboldt root word with Whitney's definition has entered many atlases. It appears on numberless pages of high-class Government reports, geographical, geological, and natural history memoirs, and of such works as Baedeker's "Guide-book to the United States," Stanford's "Compendium of Geography," etc.

The time-honored, erroneous, similarly inclusive name "Rocky Mountains," with variants, "Rocky Mountain System," "Rocky Mountain Belt," etc., has, however, held the dominant place in the popular usage. Its inappropriateness for the heavily wooded Canadian mountains is abundantly

[1] Bull. Geog. Society of Philadelphia, 1899, vol. 2, p. 55.

evident. For the United States, Clarence King wrote a generation ago—

"The greatest looseness prevails in regard to the nomenclature of all the general divisions of the western mountains. For the very system itself there is as yet only a partial acceptance of that general name Cordilleras, which Humboldt applied to the whole series of chains that border the Pacific front of the two Americas. In current literature, geology being no exception, there is an unfortunate tendency to apply the name Rocky Mountains to the system at large. So loose and meaningless a name is bad enough when restricted to its legitimate region, the eastern bordering chain of the system, but when spread westward over the Great Basin and the Sierra Nevada, it is simply abominable."[1]

The following table summarizes the above-mentioned variants along with others more recently introduced, and still other general names now only of historical interest. The names of prominent authorities and the leading dates when they have published the respective titles are also entered in the table. The authority for some of the older names is Whitney's work on the United States, published in Boston, 1889.

Mountains of the Bright Stones	General use, end of eighteenth century.
Shining Mountains	Morse, 'Universal Geography,' 1802.
Stoney or Stony Mountains	Arrowsmith, 1795; President Jefferson.
Columbians (*sic*) Mountains	Tardieu, 1820.
Chippewayan Mountains	Hinton, 1834.
The Cordilleras of the Andes (in part)	Humboldt, 1808, etc.
The Cordillera of the Andes (in part)	Humboldt, 1808, etc.
The Cordilleras	Whitney, 1868; many authors since.
The Cordillera	G. M. Dawson, 1884, etc.; Gannett, 1898; Rand-McNally, 1905.
The Western Cordillera of North America	J. D. Dana, 1874, 1880.
The Cordilleras of North America	Hayden, 1883; Leconte, 1892, etc.
The Cordilleran Region	Whitney, 1868, etc.; Hayden, 1883; Shaler, 1891.
The Cordilleran System	Whitney, 1868, etc.; King, 1878; Baedeker, 1893.
The Cordillera System	Hayden, 1883.
The Cordillera Belt	G. M. Dawson, 1879, etc.; Rand-McNally, 1902.
The Pacific Cordillera	Russell, 1899, 1904.
The Cordilleran Plateau	Hayden, 1883.
The Cordillera of the Rocky Mountains	J. D. Dana, 1895.

[1] 'U. S. Geol. Exploration, 40th Parallel, Systematic Geology, 1878,' p. 5.

The Rocky Mountain System	Leconte, 1892, etc.; Heilprin, 1899; many others.
The Rocky Mountain Region	Powell, 1875, etc.; G. M. Dawson, 1890; Gannett, 1899.
The Rocky Mountain Belt	Rand-McNally, 1902.
The Rocky Mountains	Lewis and Clarke; popular.
The Pacific Mountains	Russell, 1899, 1904; Powell, 1899.
The Western Highland	Baedeker, 1893; Keith Johnston Atlas, 1896; Davis, 1899.
The Rocky Mountain Highland	Frye, 1895, 1904.
The Western Plateau	English Imperial Atlas, 1892.

In most technical writings, both of Governmental and of private origin, the suggestion of Whitney has been followed with varying fidelity during the last thirty-five years. It is clear that the inherent connotation of "Cordilleras" is different from that of "Cordillera." The one emphasizes the compound nature of the orographic unit; the other, the singular form of the word, emphasizes the organic union of members. Hayden used both forms of the word. In recent years there has been a rather widespread adoption of the term in the singular number. In 1874, J. D. Dana proposed that the great mountain systems of North America be referred to as the "Western Cordillera" and the "Eastern Cordillera," the latter thus synonymous with what is now commonly called the Appalachian system. Russell, in 1899, proposed "Pacific Cordillera" and "Atlantic Cordillera" with respectively the same significance. Usage has, however, declared that there is but one Cordillera in North America. The expression "Pacific Cordillera" is, according to such established usage, redundant. "The Cordillera of North America," "The Cordilleran System," "The Cordilleran Region," or, with the proper context, simply "The Cordillera," seem to be to-day the best variants on the Humboldt root word.

The fine, dignified quality of the word, convenient in adjective form as in noun form, its unequivocal meaning and its really widespread use in atlas and monograph, make "Cordillera" incomparably the best term for technical and even for the more serious popular works. In fact, there seems to be no good reason why the name should not be entered in elementary school atlases. The objection that the word is likely to be mispronounced by teacher or scholar would equally exclude "Himalaya" and "Appalachian" from school-books. In teaching or learning what is meant by "The Cordillera," the teacher or scholar would incidentally learn so much Spanish. If, in the future, this should be deemed an intolerable nuisance, speakers in English could, in their licensed way, throw the accent back to the second syllable and avoid the unscholarly danger. The second

objection that a cordillera is hereby made to include the extensive plateaus of Utah and Arizona or the great intermontane basins of the United States is more serious. It will, however, hardly displace the word from its present technical use as designating a single Earth-feature ruggedly mountainous as a whole, but bearing subordinate local details of form and structure not truly mountainous. If this objection be regarded as invalid by advanced scientific workers, it will have still less weight for popular or educational use.

The ordinary connotation of the term "highland" makes it unsuitable as part of the name indicating the world's vastest mountain group. Like Powell's name "Stony Mountains," suggested for the majestic Front ranges north of the Union Pacific Railroad, "highland" is "belittling." To most readers it would inevitably suggest Scotland's relief. If the word be raised to the dignity proposed in "Western Highland" or "Rocky Mountain Highland," the writer on the natural features of the Cordillera runs the risk of ambiguity in employing the indispensable common noun "highland," while dealing with local problems of geology, geography, or natural history.

For popular use, the best title alternative with "Cordillera" is, in the writer's opinion, "The Pacific Mountain System." It is suggested by Russell's "The Pacific Mountains." The addition of the word "system" seems advisable as stating the unity of the whole group. The proposal of J. D. Dana to restrict the common noun "system" to mean merely the group of ranges formed in a single geosyncline has to face overwhelming objections. The usage of generations is against it; the enormous difficulty of actually applying it in nature is, perhaps, yet more surely fatal to the idea.

The restriction of the titles "Pacific Ranges" (Hayden), "Pacific Mountains" (Powell in his earlier use of that term; he has since applied it to the whole Cordillera), and "Pacific Mountain System" (A. C. Spencer and A. H. Brooks) to the relatively narrow mountain belt lying between the ocean and the so-called "Interior Plateau" of the Cordillera, seems particularly unfortunate. If there is one grand generalization possible about the entire Cordillera, it is that the Cordillera is both genetically and geographically, a Pacific feature of the globe. The Rocky Mountain ranges proper, the Selkirks, and the Bitter Roots bear the marks of interaction of Pacific basin and continental plateau as plainly as do the Sierra Nevada, the Coast ranges, or the St. Elias range. The large view of the Cordillera assuredly claims the word "Pacific" for its own, and cannot allow in logic that "Pacific Mountain System" shall mean anything less

than the entire group of mountains. The artificial nature of the narrower definition would be equally manifest if it were applied to a topographic or genetic unit forming a relatively small part of the Andes along the immediate shore-line of South America. The Andes mountains form the Pacific mountain system of South America as the whole North American Cordillera forms the true Pacific mountain system of North America.

Yet the term "system" is itself so elastic that it is fitly applied to subdivisions of the Cordillera. For example, the "Rocky Mountain System" expresses an unusually convenient grouping of the northern ranges in Alaska, and of the eastern ranges of the Cordillera in Canada and the United States. Popular, as well as scientific, usage has once for all recognized the propriety of there being in name, as well as in fact, system within system in the grouping of mountains.

R. A. DALY.

THE TEACHING OF GEOGRAPHY.—Various causes have been at work to produce the renewed interest in the teaching of geography thus manifested. In the first place, it has been clearly realized that the older methods of teaching the subject, which I am sorry to say in some cases still prevail, crammed the memory of the child with a host of more or less uninteresting facts, and did nothing either to feed or to cultivate the imagination, or to train the reason of the pupil. This is true whether the method relied on be mere book knowledge, or whether the teaching be supplemented by the use of the ordinary maps. The latter method was and is certainly an improvement on the former, but yet mere map understanding is not sufficient for the complete comprehension of geographical facts and their inter-relations with one another. Much less is it so if we endeavor, as we ought, to make our pupils realize that the geographical facts of a district condition, and to some extent are conditioned, by the more important natural and social phenomena whose exact study belongs to other but related sciences. For it is only by keeping this latter point of view ever in mind that our geographical teaching can be made real and living to the child. Again, it is being slowly realized that any kind of geographical teaching which trains the reason of the pupil to the perception of the causal inter-relation between physical fact and physical fact is the best medium by which to introduce the youthful mind to the study of the natural sciences, and hence it has been well said that geography teaching may be made the gateway to the teaching of science for the subject of geography, of all school subjects, if rightly taught, may enable a child to realize that the world in which he lives is not a mere sum of facts, but an inter-related system, a cosmos, in which fact is related to fact, and conditions

and is conditioned by the nature of the whole. In this connection I may for a moment allude to an opinion held strongly by many educationalists of the present day. They contend that the exact sciences, such as physics and chemistry, should be preceded by a course of study having for its object the training of the pupil to perceive the larger and more obvious causal inter-relations existing between the various parts of the Universe; and they further maintain that if we begin to endeavor to lead a young pupil to select out and to endeavor to understand the more minute and less obvious causal inter-relations, before he has undergone a training in the discrimination of the first-named set of relations, then our method is educationally erroneous, and is one not likely to produce the best results in training the pupil in the methods of science and in the formation of the so-called scientific habit of mind. For in the study of physical geography and the allied branches of knowledge, the facts to be observed and the inter-relations to be discerned are easily separated out from the whole of which they form a part, and can be made readily obvious to minds incapable, through immaturity, of understanding the more abstract and intricate system of causes with which sciences such as chemistry and physics deal. However that may be, all are agreed that the study of geography in the widest acceptance of the term is one of the best instruments for extending the horizon of the pupil, for the cultivating of his imagination, and for training him to reason and to realize the Universe as a system. But a knowledge of geography is not merely valuable as a preliminary to the more thorough and the more accurate study of the natural sciences, it is in many cases necessary for the right understanding of historical facts, and for the thorough comprehension of the history of our own and of other countries. A moment's reflection will enable any one to realize that geographical conditions have largely determined historical change in the past, and that the historical conditions existing at the present can be made completely intelligible only through the prior understanding of the geographical relations. Again, and above all, a full knowledge of geographical facts is necessary for the right understanding of the economic and commercial conditions of our own and other countries. For the localization of a people and the distribution of their industries within any one country and throughout the world generally can be made thoroughly intelligible only when our geography teaching has clearly realized this as its ultimate aim, and when the knowledge has been imparted to the pupil according to a sound method. As the final result of our teaching of geography, we should have made our pupils realize not merely that a certain city or town is placed here or there, but why this is so; not merely that it has such and such industries, but why

these industries are located here and not elsewhere; and lastly, they must understand the use and function the particular city plays in the economic and social life of the nation and of the world generally. Only in so far as we have done this can we be said to have taught the subject at all. Further, while the economic and commercial aspect of the subject is so important for a country such as ours, from the narrow utilitarian point of view, that the knowledge and training is necessary for all those who intend in after-life to enter upon a commercial career, yet it is also important from the fact that it is only by a method which endeavors to attain the end of showing the value of geography for the understanding and interpretation of the economic and social life of a people that we can really educate the child and train his reason. Now the aim of this exhibition is to make us all realize that the teaching of geography is necessary for the true interpretation of natural and social phenomena; that without the preliminary training which geography teaching gives, our efforts at imparting natural science will be more or less ineffective; that without a correct knowledge of the facts of geography, our historical interpretation of the past and our understanding of the historical associations of our own times can never be complete; and that the economic and social life of a people is unintelligible except through a knowledge of the physical environment which everywhere and in all times conditions the growth and distribution of a people and the localization of their industries. Lastly, and above all, the aim of the organizers is to endeavor to bring home to us the unity and inter-connection of all knowledge, to make us realize that geography teaching is not concerned with a particular set of facts and a particular system of causes, but that many systems of facts and their inter-relations must be understood if we are to understand the nature of the social whole.

The second, and perhaps the more important, object of the exhibition is to enable us to obtain some insight into a true and sound method of imparting geographical knowledge, and to give us some insight into methods of arousing, maintaining, and sustaining the interest of our pupils in this particular subject, so that as our final aim we may enable them in after-life to comprehend intelligently the social and economic world in which as men and women they will have to take their place and perform their appropriate functions. Now the best method of imparting geographical knowledge is to go direct to Nature and learn from direct observation the causal interaction of physical fact to physical fact, and how the natural and physical features of a country or district determine the social and economic life of the people. This was the method of Rousseau; still more so was it the method of that much greater educationalist, Pestalozzi, in the teaching of

geography. The cardinal principle of the educational method of Pestalozzi was that the symbol should never be given to the child until he had comprehended the thing signified by the symbol, and we are told that once when his own child used a term without a knowledge of the thing signified by it, he wept from sorrow at finding such an example of educational depravity in his own offspring. In his teaching of geography, Pestalozzi carried out thoroughly the maxim of presenting the symbol only after the thing itself was comprehended. In the once famous school at Burgdorf the children, along with their teacher, explored the country in the neighborhood of the school, collecting clay in baskets from the river-banks, and on their return modeled out day by day what they had learned of the physical nature of their environment, and of the inter-connection of physical feature to physical feature. Only after this had been thoroughly comprehended from the clay model was a flat map introduced and the relation of model to map explained. In our present-day teaching of geography this method of going direct to Nature should be employed wherever possible, and especially in the earlier stages, and any other method must be judged good or bad according as it approximates or falls short of the direct method.

But under the altered conditions of our time, and especially in our large towns, the method of going direct to Nature can be followed only to a limited extent, and, further, the method has limitations in itself which makes its consistent use inapplicable under existing conditions, for it is obvious that the direct method is always limited by the narrow range of the child's environment. Again, the best method of teaching here, as in so many other subjects, cannot be employed in its entirety even if it were possible, on account of the limited time in which the knowledge must be imparted. Hence the direct method must be supplemented by others, and all these subsidiary methods must have for their aim the endeavor to make geography a real, a concrete, and a living subject of instruction. If the geography teaching of our schools has only for its results the memorizing of lists of names extracted from a book or gleaned from the unintelligent and premature use of a map, then whatever we may be doing we are not educating the child. Nay, more, by such methods we not only kill the child's present interest in the subject, but also fail to foster any future or later interest; and in many cases such teaching tends to make the child grow up dull, stupid, and unimaginative, and with reason dormant about the world in which he lives.

It would ill become me, however, at this time and in this place to inflict upon you a lecture on the method of teaching geography, but before

closing there are one or two principles to which I have alluded already, and which this exhibition is meant to illustrate, that I should like to draw attention to. In the first place, the exhibition furnishes many instances of the practical application of the principle that, wherever possible, whether in the teaching of physical geography, of political or commercial geography, or the interconnection of these facts with the social and economic facts, we must base our teaching upon what is already known to the child and within his comprehension. Then upon this as a basis we must proceed to form a concrete and living idea of the district or region as a whole. But we must also remember that the mere picturing of a district or of a country is not sufficient; the child at a later stage must be trained to employ his reason in the perception of the causal inter-relations at work. Now, one particular section of the exhibition has for its aim to show how by means of models and diagrams such a concrete picture may be formed in the mind of the child, and how we may train his reason in the perception of the causal inter-relations at work. Another principle, of which the exhibition gives concrete illustration, is that the symbol should follow and not precede the thing signified, and that in particular the understanding and comprehension of a map should be based and follow upon the prior understanding of the reality of which the map is merely a diagrammatic illustration.

But if we limited our teaching of geography to the mere understanding of the child's own district and of his own country; if our only aim were to make him realize how many factors have to be taken into account in the thorough interpretation of any one region, then we should not attain the highest result, and we should fail to realize all that we should endeavor to do in our geography teaching. In addition to this, we must further endeavor to lead our pupils to a knowledge and understanding—imperfect it may be—of the world as a whole, and of the relation, position, and place of his own country to the whole. Now this is a second aim of the present exhibition. It endeavors to show how by the use of models of pictures, of lantern-slides, and other concrete means we may widen the intellectual horizon of the child; how we may extend his range of vision and cultivate his imagination; and how we may deepen and broaden his sympathies.

It is not sufficient that we should know how to lead our pupil to understand and interpret his immediate physical environment, nor to make him best realize the place and function of his own country on this terrestrial globe; we must further endeavor to make him comprehend the nature of the Universe as a whole, and how this planet on which he lives is related to the solar system of which it forms a part, and to the other systems which the starry heavens reveal to our gaze.—*Scottish Geographical Magazine.*