limestone formation rests on the Laurentian axis of the Th
Islands. Next is the well-known Niagara escarpment, over whi
waters of the Niagara River are precipitated in a vertical fall of 16
and which marks a somewhat sudden rise of 330 feet in the gener
vation of the country. This rise includes the combined outcro
edges of the Medina, Clinton, Niagara, Onondaga and Corniferou
mations in a horizontal distance of about twenty-four miles, bet
Niagara, on Lake Ontario, and Buffalo, on Lake Erie. The Sout
-and-Western Area may be generally defined as bounded on the
by the Laurentian gneisses of the Northern Area. It occupies an i
rupted belt of country of varying width, extending from the vicini
Quebec to the Manitoulin Islands. Limited patches belonging to
area occur also around the north shore of Lake Superior and in
Nepigon basin. Further to the north-west another similar area
mences in the valley of the Red River, on the 49th parallel, between
and 98° west longitude, and extends thence to the Arctic Ocean.
yond the archæan continental axis, other similar areas occur around
shores of Hudson's Bay. Of these, however, but little is yet known w
certainty, and even the limits of them, as given on the geological m
are more or less conjectural. They apparently include, in near
horizontal attitude, several members of the palæozoic series as reco
nized on the southern side of the archæan highlands, which divi
the waters of the St. Lawrence from those flowing to Hudson's Ba
The physical condition of the rocks in all these areas testifies to th
fact that the forces which operated so intensely in the South-Eastern
Atlantic coast Area throughout palæozoic and earlier ages, did no
appreciably influence any part, either of the interior, or of the arctic
palæozoic basin, and that their operation was practically limited in
palæozoic time by the line which follows the trough of the St. Law-
rence, Lake Champlain and the Hudson River, already referred to as
the great Saint Lawrence and Champlain fault. On these grounds
alone can we explain the physical and mineralogical diversities con-
current with palæontological correspondences, which characterize the
South-Eastern and the Southern-and-Western Areas. These diver-
sities have, however, doubtless been considerably enhanced by local
contemporaneous volcanic agencies of the operation of which at
intervals throughout the palæozoic age, there is abundant evidence in
both areas.

The main hydrographic feature of the Southern-and-Western Area
is the chain of great lakes, which together present a water surface in the
interior of the Continent of probably not less than 150,000 square miles.
They all constitute parts of one or other of the three great River systems
of the St. Lawrence, the Nelson and the Mackenzie, and their northern and