

et seq.; Col. Mon-

caucus attains an
more than 2,000 ft.
(Montzkoffskoi's
) This peak, or
and nearly at the
el with the 42nd
geographers it has
ch, Elbours, El-
ch, in the spread
countries, is likely
confusion. It is
the Caucasus, and a
an Sea, and may,
plied indefinitely,
but a common de-
ich reaches the snow
from this point, as
descend in all direc-
towards the N. and
(Klaproth, p. 276.)
the Russians have
Kasbek, is said by
ion of 4,419 metres,
la Caucasie, p. 40.)
that sea, as in the
own of Derbent,
ceed 1,500 or 2,000 ft.
is very considerably
peaks; it appears to
nape, on the Black
at 180 feet above the
perpendicularly, and
nued downwards for
ch being the depth
The N. ranges run
a ridge, and extend
ddenly and abruptly
pe of the Don and
t may be termed, of
e Black Mountains
echtag, the highest
an 6,000 ft. in height,
bits which appear to
on; extreme rugged-
characteristic of these
pours (Osha Makhua)
the horizon to more
the Bechtag, when
near the base of the
e country spreads
d slopes, broken and
ranges and peaks, of
Ali Guz, in 40° N.,
ang about 15,000 ft.
t on the other side of
t; but it cannot with
part of the Caucasus.
the Kur and Araxes,
level but considerably
th, and terminated by
Erivan. The various
of this part of the
ween 4,000 and 6,000
the Caucasus is also
any other mountain-
the Crimea may be
ut on the S. it mingles
bjan; on the SW. it
ins of Armenia, and
rus; and on the SE.
ntinued by the moun-
deran, to the Elbours
Hindoo Koosh, and
Reise durch Russland,

i. 433, et seq., ii. 23, et seq.; Gmelin, Reise durch
Russland, iii. 34, et seq.; Annales des Voy., xii. 5,
et seq., 167, et seq.; Pallas, i. 339, et seq.;
Klaproth, 158, et seq.; Monteith's Geog. Journ.,
iii. 31, et seq.)

The above results as to the extent and eleva-
tion of the Caucasus are deduced from a very full
comparison of the authorities cited, and of others
not named. It is right, however, to state that
they cannot be wholly depended upon. There is
the most extraordinary discrepancy among au-
thorities as to the extent of the mountain-system,
its elevation, &c.; but the above results seem to
be those on which most reliance may be placed.

The ancients mention two principal passes of
the Caucasus, the Caucasian Gates and the Al-
banian Gates; of which the former is at present
the great, indeed almost the only frequented pass.
It runs close by the base of the Kasbek moun-
tain, in lat. 42° N., long. 44° E., and is, in
fact, a deep ravine, through which the Terek
seems to have cut its way in a channel, some-
times scarcely wide enough to allow of its passage.
The commencement of this cleft on the S. is
4,000 ft., and it continues to rise, till, at the neck
of the pass, it is full 8,000 ft. above the sea. Pre-
cipitous walls of porphyry and schist, 3,000 ft. in
height, press upon its sides; and awful abysses
open beneath it, sometimes, it is said, to the depth
of 10,000 ft. Avalanches are frequent in this
pass, carrying with them not only any unfortunate
travellers who may be in the defile, but very
often the road itself, and even when the snow
does not descend in masses, its meltings in the
spring and summer cause occasional floods, which
carry every thing before them. The direct length
of this defile may be about 120 m., from Mosdok
to Gory; and some idea may be formed of its
difficulty from the fact that Strabo (xi. 500)
describes it as occupying four days in the passage.
This must be understood also of summer travel-
ling, since in winter the pass was wholly unap-
proachable. The Russians have, however, made it
passable even for carriages; and in January, 1830,
it was crossed by the Persian embassy, but this
winter transit employed six days. (Mignan, i. 46.)
About midway stands the old castle of Dariel,
in the narrowest and highest part of the gorge, where
the statement of Pliny (vi. 2), that an iron gate
would be sufficient to close the opening, seems to
be any thing but an exaggeration. This castle
is therefore, in all probability, the fortress which,
according to the Roman naturalist, was called,
though improperly, the *Pylæ Caspiæ*. (Klaproth,
p. 311; Monteith, G. J., iii. 39.) The Albanian
Gates appear to answer to a pass between Georgia
and Daghestan, in lat. 42° N., long. 47° E.
(Ptolemy, v. 9; Lape's Map; An. Voy., xii. 1.)
This is, however, very little known; it is almost
wholly in the possession of the native tribes, and
probably is not passable except for hunters, and
in the summer. Ptolemy's E. Sarmatian Gates
(Geog. v. 9) appear to be the pass of Derbent,
on the Caspian Sea: this is always available; its
narrowness makes it a strong military position,
and the swampy nature of the shore renders
travelling along it often difficult. A similar
remark applies still more forcibly to the pass be-
tween the W. termination of the Caucasus and
the Black Sea. Along this road Prince Gortscha-
koff, in the last war, succeeded in marching an
army, with incredible difficulty, from Anape to
Sokhumkulla (about 150 m.); but here he found
it equally impossible to advance or retreat, and
was compelled to return by sea. (Monteith, G. J.,
iii. 37.) The impediments to the coast roads
appear, however, to consist only in the number

and power of the mountain torrents, which, with-
out bridge or boat, are quite impassable; and as a
very wide bank of hard sand stretches along the
whole shore, it may be practicable to throw
bridges over all the streams; but very consider-
able height and strength will be necessary to
secure them from the effects of sudden floods.
These are all the passes over the main ridge, and
the transverse ranges do not seem to be better
provided; one only appears to exist between
Imeritia and Georgia, and that has been rendered
available only within modern times, and is still
encumbered with great difficulties.

Geology.—The bases of the Caucasus on the N.
seem to be covered with sand or a sandy marl,
from which the first eminences rise in low but
abrupt hills of sandstone, tufa, and iron-stone.
These are rapidly succeeded by higher and more
mountainous elevations of white calcareous lime-
stone, many of which exhibit unquestionable evi-
dence of decay, the rivers that flow through and
round them depositing thick layers of a yellow
and grey sandy consistence. Occasionally the
limestone rises into great rocky peaks and ridges,
between which marshy plains of sandy mud are
not unfrequent, apparently formed by the debris
of the mountains themselves. This limestone, of
which the Bechtag, the Metsliuka, and nearly all
the frontier line of the Caucasus is formed, is very
ancient, and exhibits scarcely any petrifications;
behind this rises a ridge of slate, from the appear-
ance of which the term *Black Mountain* is given
to the range. The higher ranges, which rise to
the snow line, consist of basalt, schistus, porphyry,
granite, and other old formations, so that whether
its actual material, or the absence of organic re-
mains, be considered, it is probable that the Cau-
casus is one of the oldest mountain systems in the
world. The S. slope exhibits the same succession
of formations, as far as regards the three principal
strata, but much less rapidly. Sandstone is far
less abundant in the S. than in the N., but, on the
other hand, calcareous spar, milk-quartz, and other
fossils, are frequently met with, indicating a much
greater degree of wealth in mineral ores. Lava
and other volcanic matter is common enough
among the formations; but, though mud vol-
canos exist in various parts of the Caucasus, igne-
ous eruptions are unknown; and neither Klaproth
nor Pallas could come to any satisfactory conclu-
sion as to their former existence. Monteith is of
opinion that the volcanic rocks are rather to be
ascribed to the sudden rise of a great extent of
country, than to emissions from particular moun-
tains. (Guldenstadt, i. 434-441, ii. 23-29; Pallas,
i. 337, 347, 358, 365, &c.; Klaproth, pp. 386-390;
Monteith, G. J., iii. 49.)

Hydrography.—The Caucasus, like the Alps,
does not form the dividing line between rivers
flowing in opposite directions; other ranges rise
immediately on its S., which shut it out from
communication with the Persian Gulf and the
Mediterranean; while, on the N., the great plain
of the Wolga and Don, arising from the beds
of those rivers for some distance S., subsides again,
leaving a positive, though scarcely perceptible,
ridge between the sources of Mantych and Sarpa
and the bases of the Caucasus, with a positive
though very gentle slope towards the latter. In
consequence of this formation, every drop of water
from the Caucasus falls into the Black or Caspian
Sea. The principal streams, besides the Kuban,
Terek, and Araxes, already mentioned, are the
Kur (an. *Cyrrus*), and the Phasis, rising on opposite
sides of the transverse range which divides Imer-
itia from Georgia, and running, the first SE. to
the Araxes, the other W. to the Black Sea. The