

21 February 1860
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Charles Darwin.
M.A. F.R.S. &c

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Kusokdow, Sumellau, Argyllshire.

February 21st 1860

Charles Darwin Esq.

M. A. S. R.S. &c, &c,

Sir, Altho' I have not the pleasure to be personally known to you I venture to trouble you with this, as altho' I have no pretensions to the character of a Scientific Naturalist I have had opportunities of observing wild animals which I dare say few people alive have enjoyed -

I have read your "Origin of Species" with great attention and great pleasure, and as I believe you are likely to be assailed by a storm of Criticism, I venture to hope that the few remarks I have to offer may be of some little use to you in replying to them in your future work or following editions of this one.

I have been an ardent sportsman and traveller during 10 years wandering over a great part of the earth's surface, and my own experience and observation quite corroborates nearly all that you have written about Wild ^{birds and} animals.

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I have often pondered deeply about the fact of gamebirds - and indeed all wild birds and beasts - so closely resembling in color the ground or vegetation they frequent, and I had come to the same conclusion that you have - namely that it was caused by hawks and other enemies and accidents, through countless generations, always being more likely to destroy any individuals that differed from their protecting cover, and so leaving the survivors to breed more and more to the color that afforded them most protection.

I may mention with deference that I do not think you have made the most of (page 149) the similarity between our British Red grouse and the Norwegian species: I have shot many thousands of British grouse and many hundreds of Norwegian *Ripar*, and may therefore be permitted to express my opinion viz^t. that not the smallest doubt exists on my mind as to their being merely 'strongly marked varieties' of the same species - the difference in plumage being caused by the necessity for the British grouse to assimilate his plumage to the color of brown heath, whereas the Norwegian *Dal-ripa* must more resemble grey rocks, birch-bushes

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bricks - bushes (and snow in ^{the} winter) in order to
protect his life from the numerous hawks, jacks,
and Ravens frequenting that country: these birds
exactly resemble one another in their size, their
voices, their flight, and their general habits;
and I have a few times killed a British grouse
so white as exactly to resemble an accidentally
rather dark Dal. Ciper.

I suppose no one will pretend that there is
any specific difference between the British Ptarmigan
and the "field-ciper" or hill-ptarmigan of Norway,
or between the Blackcocks of either country?
Only, because the "field-ciper" frequents the high, grey,
rocky mountains as does the Scottish Ptarmigan;
and the Blackcocks of both countries inhabit the
wooded valleys - there is no necessity for any
alteration of plumage in them.

I entertain no doubt that if a number of
Dal. Cipers were taken over and liberated on a well-
preserved Scottish moor, they would in the course of
a few generations come to resemble the indigenous
red grouse, or vice versa.

I may mention a curious instance of the
hereditary propensities of birds which is notorious
in this district of Argyshire: it is well known
that for ages the grouse on the extensive moors of
Argyshire and Renfrewshire have always been very "wild"
for

far more so than on this side of the Firth of Clyde: now come 20 years ago a neighbour of mine, thinking to improve the breed, introduced a few brace of Lowland grouse into this district, and in a very few years a marked increase of wildness took place among the grouse for many miles around, and throughout the district of Cowal I fancy they are now as wild as in the Lowland Counties, where, as in Cantyre on the opposite shore of Loch-Fyne they are still comparatively tame.

Your remarks about an "over-stock of game" causing epidemics will be fully borne out by any observant game-preservee or any intelligent game-keeper.

I have no doubt that the grouse-disease so prevalent in Scotland for 13 or 14 years back was caused by nothing else than high preservation (aided by 2 or 3 wonderfully favorable breeding seasons consecutively) having got up a stock of grouse which the soil was unable to supply with a sufficiency of something essential to their existence. I have always suspected that this something was insects: it clearly was not for want of heather as has been nonsensically written, because in 1846-47 when it commenced there was heather enough to have kept all the grouse in Cowal on this Estate, and yet they were dying in hundreds. It may be
worthy

worthy of observation that during that winter of '46-'47 the grouse in this district first commenced the practice of coming down to the stubble-fields and low grounds as if in quest of something which they could not find in sufficient quantities on the hills: they have ever since more or less continued that habit, but previous to '46 it was unknown in this district.

Your illustration of the lagpie (page 212) as showing the hereditary tendency of birds to become tame or wild, is a very happy one, as no bird is so much persecuted in Britain. Whereas in Norway the people have a superstition that it is "unlucky" to touch them and they are consequently so audaciously tame as to sit on the houses.

It is a common remark all over Britain that "game is becoming much wilder": this seems to me very easy of explanation when we consider that formerly the greatest danger to game-birds was from hawks and their greatest security from them lay in cowering as much as possible, but now from the gradual extermination of hawks &c. and from the frequency of shooters and goodness of guns, their principal danger is from

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from the latter, and they are no doubt
gradually finding out from generation to
generation that their best mode of security is
to fly off whenever they see a man.

I have passed the last two summers in
hunting in Spitzbergen and the great ice-fields
lying around it: I shot 100 Reindeer there,
and I am almost certain that many of these
deer had never seen a human being in their
lives before, because there were some so
ridiculously tame as to come up - even to
windward - to look at us, and that even after
being repeatedly fired at: some few of the older
individuals indeed appeared to have made
the acquaintance of the Seal-hunters in previous
years, as occasionally we came across some
which were wild enough and this more partic-
ularly on the West Coast which is the part of
Spitzbergen most frequently touched at by the
Sealers. If a rifle was fired from a
concealed place without hitting one, they would
sometimes hardly raise their heads from the
pasture, as they appeared to think the noise
only caused by the splitting of ice or rocks, or
sound

sound they are doubtless well ~~acrossed~~
accustomed to in the winter.

Now, I also once passed a twelvemonth in
hunting wild animals in tropical South-Africa,
and of course many of the animals I met there
had never seen a white man and never heard
a shot in their hoar, but still they all seemed
well aware that man was their enemy, and
merely passing to windward was sufficient to
put thousands to flight.

Can you not make some use of the African
Antelopes? When I was there I shot specimens
of more than 20 kinds from the huge Oland of
2000 lbs. weight down to the diminutive "Blawbok"
of the Cape Colony, all varying in size, color,
horns &c. and yet all having strong points of
resemblance to one another - and all to be found
in an extent of country not larger than Britain.
now with any man attempt to make me believe
that each and all of these 20 Antelopes were
"Created by Special fiat" just as they are at the
present day? It seems to me much
more in accordance with reason to believe that
they have all diverged from one common centre
thrs

tho' countless generations of circumstances causing such divergance.

There is considerable difference of opinion amongst the Colonists up the Country as to whether some Antelopes are or are not distinct species, for instance the "Bonte-bok" of the Thebus flats is almost exactly identical with the "Blau-bok" of the Vaal-river plains, but there is a large extent of Country intervening which I believe is inhabited and traversed by neither. Again it is denied by many there that the little "Stein-bok" and the "Fries-bok" are different species.

Also the antelope which Gordon Cumming asserts he discovered on the banks of the Limpopo is generally believed in the Colony to be identical with the "Bush-Bok" (*Tragelaphus Sylvaticus*) which inhabits the Colony.

The other day I saw in the Museum at Florence two large Antelopes from S. Africa which very nearly resemble the Kortebeeste and the Sapsabie (*H. Aromatus* and *H. Linata*) of the S. African plains: it seems indeed to be a link connecting those two very similar antelopes.

We killed about 50 Walrus and 100 great
Seals

Seals at Spitzbergen, and I paid considerable attention to these former curious and little known amphibians: they have much more use of their legs than the Seal as they can walk or shuffle on land, while the Seal can only roll or jerk himself: the Walrus ploughs the greater part of his food from the mud at the bottom of the sea, while the Seal catches his in the water: the Walrus is gregarious and the great Spitzbergen Seal solitary: the young Walruses always keep with the old ones — the young Seals never.

May we not look upon the Walrus as a connecting link between the great Seal and land animals?

We killed & captured 8 Polar Bears, and I can see little or no difference, except in color, between them and the Brown Bear of Norway?

It is perhaps very presumptuous in me to suppose that the foregoing remarks of a "mere sportsman" can be of any service to one of the most distinguished of living naturalists, but if they are so, you are perfectly at liberty to

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make any use you please of this letter as
I am not the least ashamed of sharing
with you the epithets of "Lamarckian",
"Disciple of the Author of the Vestiges" &c. &c.,
which have no doubt been already bestowed
on you.

I am abroad at present, but I hope to
have the honor of making your acquaintance
at some future day perhaps at the sittings
of the Geological Society of which I am a Fellow.
Meantime a letter as above will always
reach me, and if there is any scrap of
information about beasts or birds which
you think likely I can give you. Pray
command yours.

admirer & obedient servant
(Signed) James Hutton