Colour and Race
Author(s): John Beddoe
Source: *The Journal of the Anthropological Institute of Great Britain and Ireland*, Vol. 35 (Jul. - Dec., 1905), pp. 219-250
Published by: Royal Anthropological Institute of Great Britain and Ireland
Stable URL: http://www.jstor.org/stable/2843064
Accessed: 14/06/2014 03:00

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
http://www.jstor.org/page/info/about/policies/terms.jsp

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Royal Anthropological Institute of Great Britain and Ireland is collaborating with JSTOR to digitize, preserve and extend access to *The Journal of the Anthropological Institute of Great Britain and Ireland.*

http://www.jstor.org

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

COLOUR AND RACE.

The Huxley Memorial Lecture for 1905.

By John Beddoe, M.D., LL.D., F.R.S.

[Delivered October 31st, 1905. With Plates XVI, XVII.]

The Huxley lecture is usually said to be commemorative of the great man whose name it bears. I am not sure that I quite like the adjective. The character and achievements of Huxley, the impression he made on his country and his time, are not likely to fade from our memories. The lecture is rather, I think, a token of our gratitude to him than a necessary reminder of his services.

Few departments of anthropology seem to have interested him more than that of colour in connection with race. The terms Xanthochroi and Melanochroi, with the things denoted thereby, remain to testify to that interest.

The late Sir Henry Rawlinson, a widely-travelled man and a good observer, once remarked to me that "colour was no part of type." As one who had given some years of his leisure to the subject, I felt somewhat discouraged by this dictum of a revered senior.

"No!" said he, "and I will give you a case in point. Herodotus says the Egyptians planted a colony in Colchis, whose descendants survived there in his day—dark and curly-haired. Well, the Mingrelians at the present day have curly hair,[1] but it is quite frequently yellow or fair; the type remains, but the colour has altered."

So said Sir Henry, and there are still some of his opinion. There is an ingenious theory which attributes the deep and brilliant "Highland red" hair, found in the so-called Kelts or Gael of the British Isles, to the effect of a northern climate in depigmenting Deniker's Littoral race, by some designated Atlantean.

Anyhow, it is a prevalent idea that colour in man, being merely superficial, is of very small account compared with his osteology. But this is really an exaggeration. If colour is mutable, so too is bone-form, less quickly or visibly, maybe, but mutable for all that. In Egypt, in Russia, in Bohemia, Bavaria, Mecklenburg, it is difficult to believe that widening of the skull has or would not have taken place, even if the influence of admixture of blood had been excluded; and when Egyptologists tell us that the Egyptian skull, barring this little increase in breadth, is very like what it was six or eight thousand years ago, we may reply, "Why should it have altered? The circumstances, the media, have not altered

[1] Deniker, *Races of Man* (transl.), p. 355. It occurs among the Guriels, too, but I am not aware that it does among the Lazes, of whom I have seen a great deal.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

much; and the successive hordes of immigrants or invaders, from their paucity of numbers, from their unsuitability to the climate, or from the mutual balancing of their physical characters, were not very likely to affect it much."

The great changes that appear to have taken place in Swabia and Bavaria, and about Hallstadt, are quite explicable, as I at least, who was a mute Ammonite before Ammon and De Lapouge, am disposed to believe, without calling in the operation of anything like spontaneous variation in form. Still the cases of the Mecklenburgers, of the Bohemians, of the people of the Rouergue, cited by De Lapouge, and of the Muscovites, which convinced no less an authority than Bogdanoff, do certainly make one a little doubtful. On the other hand, consider the case of the Budini, plausibly identified with the Vod or Votiaks, still found in or near their ancient locality. They were noted as redhaired in the classic age, and now, after 2,000 years, they have among them a larger proportion of redhaired persons than any other tribe or nation.

The principal drawbacks to colour as a mark of race are the following, relating especially to hair :—

1. The change which occurs in individuals with advancing age. In this country the index of nigrescence of school children darkens, usually, about twenty degrees before they arrive at early middle age; and even after that the hair continues to darken slowly until it begins to turn grey. Red hair does not darken in the same way, as a rule, but in those cases which Virchow would have looked on as defective brunets, it may even change into something not far removed from black. The iris-colour also changes with age, though very slowly after infancy. At first it darkens, but later on pales again. Such instability, besides increasing difficulties of observation, is suggestive of small value in the attribute.

2. Again, the apparent fugitiveness of the colour of hair after death lessens its value as historical evidence. Brown pigment seems to be less permanent than red.

3. The operation of various forms of selection, social, conjugal, morbid, is of considerable importance in impairing the evidence of permanency. I believe De Candolle and I were earliest in the field on this subject; but Ammon, De Lapouge, Closson and Ripley and Shrubsall, have developed the idea very extensively, and with promise of yet greater results. Virchow's and Von Mayr's extensive statistics, and my own observations, showed darker colour in hair, and still more in eyes, in cities than in rural districts, even after allowing somewhat for the greater attraction of towns for alien (in Germany usually darker) immigrants. Livi has shown that the same rule holds good in Italy to a large extent, though there alien immigrants would be more likely to be comparatively blond. And Shrubsall has already given us some solid grounds for basing the difference on morbid selection, weeding out more possible parents from among the younger blonds, whereas the diseases which more affect the brunets, such as cancer, usually operate more in later life.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

4. The difficulties arising out of the personal equation of the observer are very great: I will return to them presently.

These drawbacks seem then, nay, they are, considerable, but either they, or analogous disadvantages, apply to the head-form also. Durand de Gros, and after him Ammon and De Lapouge and Muffang and Livi, have shown how the citizen develops, by some process of selection, a longer and narrower head than the countryman; and though the process is not so conspicuous in English towns, Dr. McDonell's figures for London, and mine for Bristol, make it probable that it is really operative here. Such changes imply a converse process at work in country districts, and other fountains of emigration; and thus may be explained the development of brachycephaly in, for example, some Frisian islands and Alpine valleys. Difficulties put in the way of the observer by modes or fashions of dyeing the hair find their analogues in the various processes whereby the head is wilfully or unintentionally deformed. Even in Germany there is no doubt that brachycephaly is exaggerated in many cases by the pressure of a hard cradle.

Again, Professor Oloriz has well shown how the personal equation affects the measurement of the skull as well as of the living head: we need not therefore be quite discouraged, when we discover the many impediments that stand in the way of him who would observe the colour of the hair and eyes.

Some of these concern light and distance. Topinard directs his pupils to work "en pleine lumière," and in using his standard samples for comparison, this must be kept in mind. One cannot always choose; and one ought to be able to make proper allowance for different lights, as a rifle-marksman does for distance and wind; but I prefer the shady side of a street on a sunny day.

As for the best distance, M. Bertillon working for identification and police purposes, and dividing his eyes into 7 and his hair into 10 classes, directs the observer to place himself at 30 centimetres or about 1 foot from the object. This is far too near for ordinary purposes. The aim should be to work at distances at which the iris-colours fall naturally into three or at most four divisions, light, neutral and dark, the first embracing class 1 and part of 2 as depicted in Bertillon's Album, the third including roughly his classes 5, 6, and 7, most of 4 and a little of 3, while the neutral includes his remaining examples. Having always had good sight, I have found from 2 or 3 to 5 or 6 feet the most suitable distances. The hair-shades are of course capable of appreciation further away; but as red or yellow, for example, can be well discriminated at a greater distance than the different shades of brown, one should select and adhere to a certain maximum limit, foregoing anything beyond that. The eyes should be inspected in front, not laterally, or you will put too many into the neutral class, as some British observers do.

When I first began to make systematic observations on human colouring, more than 50 years ago, being, as I supposed, the first in the field, I had to frame a classification. My first system somewhat resembled that afterwards devised by Virchow, which did not cover the entire field, but left a small margin for unusual

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

combinations. This I soon discarded on that account, and framed a schedule with three divisions for the eyes, and four cross-divisions for the hair, red, fair, brown, medium (or light chestnut), and dark, in which I at first included black. Black is uncommon in the east of Great Britain, outside a few towns where there has been much foreign immigration. But I soon found it necessary to add columns for black, thus making 15 places in the schedule, or 30 for the two sexes. With this addition it corresponds to the divisions in common speech, and, I might almost say, in nature; and I think it a pity that it has not been universally followed. The only possible improvement, I think, was that of Topinard, who, with a view to making comparisons with Virchow, divided the light eyes into blue and other-than-blue; but the advantage is slight, and complications are a little increased, especially for field-work. Roberts and Rawson, for the Anthropometric Committee, framed schedules which are incomparable with Virchow's or mine or any others, from the absence of niches for black, and from other peculiarities. Vanderkindere's scheme for Belgium, though better, is in a similar unfortunate position. Topinard and Arbo do not separate black from dark brown, which almost all others do. Meyer and Kopernicki in Galicia, otherwise agreeing with me, amalgamate red and fair hair, which is a very trivial blemish. Retzius and Fürst, dealing with the almost purely blond Swedes, divide fair hair into yellow and *cendré*, which last I suppose includes besides flaxen most of my neutral: but in summaries they generally drop this subdivision. They arrange their eyes as Topinard and I do, into light, neutral and dark; but in the hair they follow Virchow, admitting no medium category. Livi in Italy having very few real blonds, classes my neutrals with them. Browne in Ireland, Haddon, Dunbar in Jersey, Aranzadi in Spain, De Man in Holland, Sören-Hansen and Westergaard in Denmark, and all, I think, of the numerous Russian observers, have employed my plan without modification. Schimmer and Kollmann, of course, followed Virchow's.

I well remember that Mr. Crawford, when President of the old Ethnological Society, said that the mixture of blonds and brunets in one people or tribe was peculiar to Europe. He had seen many lands and peoples, and spoke as the result of much observation; but I did not and do not agree with him. That Brahmins occur with blue eyes and red or brown hair counts for nothing: the Brahmins are of course partly of Indo-European descent, and so probably are the pure Rajputs and the Kattis of Gujerat. But the xanthous type does occasionally present itself in Bengal among the lower castes, as I was assured by a competent anthropologist, the late Dr. James Wise, who at my request undertook to investigate the subject. Again, Mr. Anantha Krishna Iyer, now in charge of the Ethnographic Survey of the Cochin state, tells me that not only among the local Brahmins, but among the Nairs, a high division of the Sudras, occur children with hair of a dull red or auburn colour, which does not become black at maturity.[1] Red hair occurs sporadically

[1] He also mentions the occurrence of eyes which are not dark brown, and of some resembling, as he puts it, cats' eyes, with a dark inner and a grey outer ring, such as I should probably call hazel grey.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

among the Buryats and other Mongolian tribes, though here one cannot exclude the possibility of the ancient incorporation of some xanthous tribe, such as the Woosun or the Tingling. Among the Shans in the mountains of Upper Burma fair hair and blue eyes are said to occur, and brown hair among the Lolos in Sze-chuen. I have never seen or heard of a fair Chinaman; and my friend Dr. Colborne, long a medical missionary in those parts, never saw a Chinaman or a Japanese adult whose hair was not black or of the darkest brown; but he tells me that Chinese children often have it of a dark reddish yellow, and Japanese children of some shade of brown. Lefebvre, investigating for Collignon, found one or two red-haired persons on the west coast of Japan, opposite Corea, but none on the eastern side. Brown hair occurs in Manchuria and Corea. Nor have I heard of a fair Amerindian of pure blood, except perhaps in the Mandan tribe; but I do not doubt that they could be met with if they were looked for. In the negro tribes I believe truly xanthous or erythrous persons occur, and are classed as albinos. And both the pygmies of Central Africa themselves, and tribes in their neighbourhood such as the Monbuttu, who may be supposed to partake of their blood, are reported often to have hair which is of a dull brown rather than black.

With respect to red hair, I am disposed to adhere to our master Virchow's view, viz., that it occurred among fair people from excess or abundance of xanthous colouring matter, but among brunets from absence of brown pigment. In favour of this hypothesis is the fact that reddish pigment is abundant in much of the hair that we call black, as among the Jews, among the negro races in general, some at least of the Polynesians, and, I am informed, the Himalayan tribes.

In the Macdonell ranges of Central Australia all the natives have been said to have hair of a dark auburn rather than black; and the Wankerutu to have skins lighter than tribes 500 miles further south, further from the sun.

I have myself seen deep red hair with a freckled fawn-coloured skin and hazel eyes in a Moresby islander; and I am indebted, through Dr. Haddon, to the great courtesy of Dr. Seligmann for ability to say, on his weighty authority, that the same sort of thing is to be seen among the Papuans of New Guinea, both east and west. The particulars Dr. Seligmann has given me enable me to say pretty confidently not only that erythrism is not very uncommon in those equatorial latitudes, but that it sometimes occurs apart from the rather prevalent leucoderma, and without ocular defect; and that there are indistinct indications of its being hereditary. The establishment of a xanthous or erythrous race, thereabout, would not be impossible.

Mr. Browning informs me that the Eheu complexion, as it is called in New Zealand, is said to occur there in the lower rather than in the upper caste, which would probably mean that it belonged to the darker, aboriginal or Melanesian, rather than to the Malay or Polynesian stock. It is well depicted in Angas's drawings, and evidently exactly resembles Dr. Seligmann's and my own erythric type.

It is a common belief, though, so far as I know, not statistically proved, that

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

red hair is apt to occur in families whose parents are of very opposite complexions. If so, it must be, one would say, from an instability of pigmental function, a kind of disturbance arising from the incompatibility of the parents. On a large scale some would apply the hypothesis to the Highlanders and the Irish, both mixtures of blond and brunet elements.

There are of course facts, or reported facts, which would lead one to suspect that red was the original hair-colour of man in Europe, at least while living in primitive or natural conditions with much exposure, and that the development of brown pigment came later, with subjection to heat and malaria, and other influences connected with what we call civilisation. The cases of China and Egypt suggest themselves as capable of throwing a side-light on the subject, but if Terrien de la Couperie rightly derives the Chinese from Elam, the latter set of agencies are unnecessary in their case.

To return. I place red first in my series of hair-colours, both because, on Virchow's theory, it is the contrary of black, and because on that plan the colours shade naturally into each other, which they do not in any other case.

There is not, I think, much difference of opinion as to the relative value, ethnologically, of hair-colour and iris-colour. The hue of the hair seems to be always taken to be the more important and significant characteristic, partly perhaps because it is more conspicuous and bulks more largely in our sight. A better reason is the comparatively small amount of pigment in the eye, compared with that in the hair. When I first proposed and used my now well-known Index of Nigrescence ($N^2 + D - F - R$) which applies to the colour of the hair only, I did so because I thought the eye-colour of less importance, and because I could not make up my mind as to the best plan of standardising it. Topinard, long after, proposed an index for the iris on the same principle, viz., the subtraction of the light from the dark, omitting the neutral. He combines the two indices to constitute a single index of pigmentation. And this is probably the best plan yet devised. Virchow's plan of contrasting the pure, *i.e.*, the blue-eyed blond, with the pure brunet, and comparatively neglecting the intermediate combinations, has of course its own merits, and has been largely used; but its defects in practical application are also considerable. In fact, though not in intention, it makes the eyes the more important, with the curious result, depending partly on the impossibly sharp line attempted to be drawn between blue eyes and grey, that Switzerland comes out with 11 per cent. of pure blonds, swarthy Dalmatia with 15, and the Bukovina with 18, while Obwalden, really a rather fair district, appears with only 2 per cent.!

In these maps, and in the production of this lecture, I have given to the pigmentation of the hair twice the value of that of the iris. That is to say, I have doubled in every case the index of nigrescence, and I have added thereto, or subtracted therefrom, according as it is + or —, Topinard's index of the eye, viz., the excess or deficiency of the dark as compared with the light eyes, this being counted singly, not doubly, and the neutral eyes left out of the count. I have

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

reckoned Virchow's grey eyes as neutral, though they no doubt include my light-greys as well as my neutrals. His brown and my dark eyes correspond extremely, nay, wonderfully well. Thus:—

Percentage of Brown or Dark Eyes.

	Berlin.	Brunswick.	Köln.	Trier.	Leipzig.	Dresden.	Aachen.	Aver.
Virchow ...	30·2	20·2	33·3	38	28	29·4	35·2	30·6
Beddoe ...	26·8	21·5	34·6	36	31·3	30·8	32·6	30·5[1]

Now we have not at present, though we are hoping to have in course of time, the figures for our school-children, figures by the way which, if they are to be of much value, must be derived from the observations of only well-instructed and practised persons. The differences of personal equation in ordinary observers are portentous. My problem was how to correlate the indices of pigmentation in (1) German and other continental school-children, and (2) British adults. This I alone at present am in a position to do, having personally ascertained the requisite figures in about 4,700 adults in northern, western and central Germany, in about 5,000 in Switzerland and Austria, and about 6,000 in the Low Countries. I find that Virchow's figures and my own, when treated on the plan already described, *i.e.*, when in every case twice the index of nigrescence is added to once the index of the eyes (Virchow's grey being taken provisionally as equivalent to Topinard's and my neutral), come out with a difference of about 50 on an average, my adults being by so much darker than his school-children.[2]

Assuming then that the actual difference between adults and children of the same mean age is likely to be about the same in Germany and England,[3] I have reduced by fifty my own figures for all the squads of British adults, after subjecting them to the process already described, in order to give greater weight to the hair than to the eyes. The British (Plate XVII) and Scandinavian (Fig. 1) maps, being based on these reduced figures, ought to be on something like the same standard as to colours with the map of Central Europe (Plate XVI) based on the statistics of children. And you will find in them the same gamut of coloration as in that map, with the exception in Britain of the pink; we do not seem to have any district in Britain which can compare in blondness with some very extensive tracts in North Germany and Sweden.

[1] My average for 33 English towns was 29·9.

[2] See on this point, the paper of Dr. Guillaume of Neuchâtel.

[3] I say *about* the same, for I have reason to know they would not be identical. A short table, which is appended, shows that the darkening process goes on rather more quickly among the Germanised Wends of Eastern Prussia than among the purer Germans farther west, Pomerania and Posen each sinking 3 places, and Prussia 2, in order of blondness, among the 11 provinces, while Hanover, Westphalia, Saxony and Rhineland all rise 2 places.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

In the map of Central Europe (Plate XVI), then, I have used a gamut of nine colours, ranging from pink, allotted to the almost universally fair Saxons and Frisians and Danes of Schleswig-Holstein, Hanover and Oldenburg, and to the natives of part of Pomerania, through red and orange in Prussia, Pomerania, Brandenburg, Mecklenburg and Westphalia, to the yellow of the Rhineland, Hessia, Thuringia, Saxony and Silesia, the green of Franconia and Wurtemberg and part of Flanders, the blue of Flanders, Baden, Styria and Lower Austria, the purple and brown of Alsace, the Ardennes, Bavaria, Bohemia, Galicia, Bukovina, Carinthia and German Tyrol, to end in the black which occupies the entire Italian Tyrol, most of Dalmatia and Istria, and large portions of Bohemia and Carpathian Galicia.[1]

It is impossible to ignore the gradation of colour, the gradually increasing depth of tint from north to south exemplified in this map and shown with equal distinctness in Livi's map of Italy. There is a similar gradation in the map of the British Isles and in Topinard's map of France, but in these latter the tints deepen from north-east to south-west. This must surely be due in part to the influence of media, of sunlight and other like influences, acting probably through natural selection; social or conjugal selection seems unlikely here.[2]

But if geographical position be the warp, heredity, race, inherited type is the woof; and its threads are extremely tough and lasting. It is evidenced by the numerous and marked departures from the rule of increase of pigmentation as we go southward and south-westward.

Of these the most important and interesting is the case of the Czechs in Bohemia and Moravia. Here we have a region with masses and blotches of dark hue, yet surrounded north, south, west and east by lighter-coloured tracts.

The main facts to be considered are—

1. That this is no new thing: Ibn Fozlan, an Arabian traveller, noted, nearly 1,000 years ago, the black hair of the Bohemians. This peculiarity would hardly have struck a southron's eye, had it not been in contrast to the hair of their neighbours. And in a mediæval German publication, wherein four nations are portrayed as female figures, while Germania is blond and Italia dark, Sclavinia is represented as distinctly swarthier than Gallia. The Czechs being as it were the vanguard of Slav invasion, would very naturally be present to the mind of the artist, as the nearest and most familiar representatives of a Slavonic race.
2. The modern Mazovians and other Poles are comparatively fair, and so,

[1] The authorities are Virchow and his coadjutors in Germany, of whom G. von Mayr was prominent in Bavaria, Schimmer in Austria, Kollmann in Switzerland, Vanderkindere in Belgium.

[2] More evidence from Russia is desirable; what we have does not afford much support to the statement above. But the movements, displacements and mixtures of the Slavish and Finnish tribes are perhaps too recent to have had their full effect in developing type.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

it is likely, were the old Obotrites of Mecklenburg and the other Wendish tribes long since swamped by German colonists, though they were not so fair as to hinder a slight degree of darkening in these same crossbred eastern Germans, as compared with the true Germanic, Saxon or Frisian stocks west of the Elbe and the Trave (the true Nordic race of Deniker); and this darkening is found on my map somewhat more distinctly than on Virchow's,[1] as it affects the hair more than the eyes.

Religious wars and persecutions have made considerable ethnic changes in Bohemia and Moravia; but the Czechs on the whole have held their ground, especially in the central plains; and the prevailing complexion may have altered less than the skull-form, which appears to have widened.

German immigration has changed the language in the mountainous borders of Bohemia, and in several towns and cantons of Moravia. The colours point to pacific infiltration, rather than colonisation *en masse* of dispeopled land; for they are almost everywhere a shade darker than that of the probable source of migration, except on the frontier of the Upper Palatinate, whence the incomers would be German in speech rather than in race.

The case of Deutsch-Brod is curious. It was originally, no doubt, a German settlement, but during the religious wars the Czechs are said to have wiped out the Germans and their language. The extermination, however, cannot have been complete, for Deutsch-Brod is to-day the most blond of all the Czech-speaking cantons. On the other hand, we find on our map Iglau and Znaim blue amid black and brown surroundings, and Brunn purple with brown surroundings, all contrary to the rule that towns develop pigment. A traveller, who went that way during the Thirty Years' War, says, that on arriving at Brünn he found the inhabitants, who had been Protestants, hanging on gibbets around the town. This atrocity may have had something to do with the present phenomena.

The dark complexion of the Czechs may have an important bearing on Slavonic origins and history. Procopius's description of the complexion of the Vends is well known.[2] Modern stocks, reckoned as Slavonic, differ much in that respect. The Slovaks of North Hungary, for example, who have a remarkably distinct type, quite different from that of the Czechs, are generally fair, with light eyes and often flaxen hair and rather lumpish features; the Mazovian Poles, too, are a rather fair race; while the Ruthenians of Eastern Gallicia, of whom we have physical statistics on adults from Mayer and Kopernicki, and on children from Schimmer, are comparatively dark. The results of Schimmer's inquiry appear in the map; those of Mayer and Kopernicki, which are practically on my plan, yield a somewhat lower

[1] Virchow's subsidiary map of hair-colour shows it to a considerable extent, being much on the same lines as my index of nigrescence.

[2] He says the Vends were neither altogether xanthous, nor much inclined to darkness, but all somewhat reddish.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

index of nigrescence, but show as distinctly as Schimmer's that the Ruthenians are much darker than the Poles, and that black hair is much more frequent among them. Now this statement applies with especial force, though not exclusively, to the valleys along the northern spurs of the Carpathians, inhabited by Ruthenian tribes called Boiks and Huzuls; and the question arises whether the Czechs were a western extension or colony of these hill-men, though now, and perhaps even from the first, cut off from them by the intervening and fairer tribes of the Poles and Slovaks. There are other reasons for regarding the Carpathians as the centre of dispersion of the Slavonic stocks.

This may be the most convenient place in which to refer to Livi's theory about the mountaineers of Italy, and their relative fairness as compared with the people of the plains and the foothills. The map has not been extended to embrace any part of Italy, unless we may so call the Italian Tyrol, or those small portions of the Austrian Dominions where the Italian language disputes the mastery of German or Slavonic speech; for the whole of Italy, with the exception of two small cantons in the valley of Aosta, would come out black on my scale, the reputed blonds of the Seven and the Thirteen Communes, and of other Germanic or Slavonic villages south of the Alps, being swamped in the sea of dark-haired Italians who surround them.

Livi, however, has discovered a curious paradox respecting the mountaineers, *i.e.*, the dwellers above a line of 400 metres elevation, or about 1,300 feet. The proportion of blonds, it seems, if we take the whole of Italy into consideration, is much the same above or below this line, viz., about six per cent. Yet in every one of the 16 provinces of Italy, except the Abruzzi and perhaps Umbria, the blonds are more numerous above the 400 metre line than below it. The explanation of the paradox is simple; it depends on the facts that a large portion of the south of Italy, including Sicily and Sardinia, is covered with mountains, whereas the most populous parts of the north are level or nearly so, and that in accordance with the usual rule, the south has a much smaller proportion of blonds than the north. But to explain this increase of blonds in the mountains is not so easy. It cannot be done on grounds of historical ethnology, as Livi justly says. The rule, of course, is that conquerors seize on the fat plains, and leave the hungry mountains to the vanquished; of this we have plenty of examples in France, in Belgium, and even in England. Hence the difference in colouring between the Saxons of Wiltshire and the Britons of East Somerset. But with the exception of the Saracens, and the Aragonese, all the conquerors of Italy, from the Visigoths downwards, have been comparatively blond.

Livi is disposed to attribute the phenomenon to the poverty and insufficient nourishment of the peasants, who almost wholly constitute the mountaineer population. He regards pigmentation as in a degree an index of force. No doubt we are familiar with cases of what may be called blondness by defect; and it is not easy to give a wholly satisfactory answer to those who regard blondness as a minor degree of albinism, and point to the peculiarities of the nervous system in

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

some light-coloured animals as an index of inferiority. Wasting and protracted illness too, diminishes the brightness and intensity of colour of the hair, though it is the oily matter, rather than the actual pigment, that is lessened.

This line of argument or rather of suggestion, may, however, easily be pushed too far. The inferiority, in respect of freedom from disease or infirmity, which Dr. Baxter, on the strength of his American-war statistics, attributed to the blond, was successfully explained away by M. de Candolle. I may return presently to this part of the subject, which is being ably followed up by Dr. Shrubsall. If it be heat more than sunlight which is pernicious to blonds in hot countries, it is quite conceivable that an elevation of over 1,300 feet in the latitude of Italy, might imply a sufficiently colder climate (say by four or five degrees Fahrenheit) to give a sensible advantage to the blonds.

To return to Austria. There is in my map, and in Schimmer's also, a long irregular band of blue running along between the northern bank of the Danube and the southern frontier of Moravia. If we suppose Austria to have been simply colonised from Bavaria, we should naturally expect it to be less, or at least, not more blond than the country whence the colonists were derived. Such is not the case, and, to add to the marvel, we find that the blond element is rather stronger in Lower or Eastern, than in Upper or Western Austria. Moreover, the Austrians are not so broad-headed as the Bavarians. Little, I think, is known about the colonisation of Austria, and one feels justified in offering a conjecture.

When the Marcomans left Bohemia for Bavaria, may not some portion of them, or perhaps rather of their allies the Quadi, have lagged behind north of the Danube (as did the Gepidæ in Hungary, and the Tetraxite Goths in the Crimea), and so formed a nucleus for the later constituted March. Others perhaps may have crossed the great river and been the first Germanic colonists of the Styrian Hills, whose people have, to my eyes, a distinctly Germanic aspect, and who are very generally blond, and often long-headed. The actual valley of the Danube, a sort of highway of nations and of armies, was in later times so frequently swept with the besom of destruction, that one cannot wonder if much of the hypothetical German population was removed by denudation, and replaced by mixed breeds, the result of perpetual chance medley. We *know*, for example, that the town of Mödling was depopulated in the Turkish wars, and that the present inhabitants are found to differ in cephalic index from all their neighbours.[1]

But the most obvious and important fact brought out by inspection of the map is the introduction of the blond element from the north, and that almost surely by way of the Kimbric or Schleswig isthmus, whence it radiated southward and westward, and later on, probably, eastward and south-eastward. Thus we find the pink colour occupying all the Frisian coasts and islands and Hannover and Oldenburg

[1] Zuckerkandl.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

and Brunswick, down to the Harz mountains.[1] Then follow irregular rings of red and orange overspreading Westphalia and Hessia almost to the Rhine, lands which were never really conquered and settled by the Romans, but where there was only a scanty semi-German or Keltic population to be assimilated. The same colours affect the whole Prussian coast lands, except a large tract in the eastern third of Pomerania, which is coloured pink, like the opposite coast of Scania in Sweden. I might reasonably be asked to show cause for this exception. Well, firstly, some of the old Germanic or Gothic population may have remained behind at the Völkswanderung. Dr. Buschan of Stettin himself inclines to this view. 2ndly, the later Germanic colonization was probably very thorough, as the Slavonic tongue seems to have speedily faded out except in limited tracts. 3rdly, the country was long under Swedish rule, and the infiltration of Swedes *may* have been of some importance, though that is rather unlikely. I have already said that there are and doubtless were great differences of this kind among the various Slav-speaking tribes; and these old Pomeranian people may have been as fair as the Letts or Lithuanians, and fairer than the Mazovian Poles, the admixture of whom does somewhat darken the shades on the Polish and Silesian frontiers. The still Slav-speaking Cassubians, too, just to the east of the tract in question, are moderately blond (red on my map). But it may be of greater interest to trace the westward and southward track of the immigration of the Nordic race of Deniker.

Of coloration in Holland we unfortunately know very little accurately. Except my own, and those of the veteran De Man of Middelburg in Walcheren, there are no systematic observations on the subject with which I am acquainted; and these two series are confined to the coasts.[2] But Friesland and North Holland are extremely blond, as much so as any part of North Germany, while Zealand, strange to say, nourishes a mostly brachycephalic people highly pigmented, and insular in more than one respect; for the blond or xanthous tide, though by now somewhat enfeebled, crosses the Rhine, the Waal, and the Maas, and overspreads conspicuously almost the whole of Limburg, Brabant, and Flanders. Here we come upon perhaps the most interesting of colour-frontiers in Europe, which is at the same time a frontier of race and of language. I have expressed regret that Vanderkindere struck out a colour scheme of his own for Belgium; it has its merits, but its results cannot with any confidence be compared with either Virchow's, or Topinard's, or mine. I have endeavoured to do so in the map, but with dubious success. But whatever plan might be adopted to display Vanderkindere's statistics, it could not fail to exhibit more or less distinctly, the features of this wonderful frontier. If we draw a line due west across Belgium from Aix-la-Chapelle, leaving Tongern, Tirlemont, Brussels, Oudenarde, and Kortryk on the right or north, and Liege,

[1] In Schleswig (Hadersleben and Tondern, and in less degree Husum and the two Dithmarschen, *i.e.*, among the Danes and Frisians), blue eyes are very much in evidence, but I am not sure that we can generalize on the fact. The people of Denmark are not homogeneous. The Saxons and Frisians differ in feature more than in complexion.

[2] They were made upon adults, but I have reduced them by 50 degrees to bring them into line with the children.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Wavre, Grammont on the south, it will be seen that every province north of this line is coloured green or blue, while every one to the south is purple or brown. Ypern has, north of the line, two French-speaking cantons; if they were withdrawn from it, they would come out purple. And if we divided the provinces into cantons, the line of coloration would continue fairly straight and sharp, and few spots of colour would anywhere appear on the wrong side of the line. On the north of it the folk speak Flemish, on the south Walloon, and Houzé has shown that on the north they are dolichocephalic and tall, on the south brachycephalic and lower in stature. Here it is the hill folk who are darker, not as in Italy; but the hills have to do with the phenomenon only in an indirect way, for Hainault, the most westerly Walloon province, though flat, is the darkest and shortest. It is clearly an affair of race; the hills and woods of the Ardennes, and in a less degree of the Eifel, simply turned aside the currents of conquest and migration, and directed them westward and southward. Holland was possessed by the blond from time immemorial, but Flanders and Brabant probably only from the period of Frank and Saxon immigration. When and whence came the little island of brachycephalic and comparatively dark population which occupies most of Zealand is as yet a mystery. Dr. De Man, who knows most about it, says that it was not indigenous, and was preceded in Walcheren by a long-headed type.

Nowhere in Thuringia is the blond German race very pure, but it is more so in the west than in the east, where there are Slavonic settlements that slightly darken the colour; that such is the case is proven not only by historical and place-name evidence, but by a broadening of the head and a lowering of the stature, even where the land is exceptionally fertile. Similarly the continual darkening as we push southwards through the hills and across the Main, the Danube, and the Rhine, can be quite accounted for without calling in the help of altered climate. Mean temperature indeed increases very little as we travel, but sunlight certainly does, and may have a slight influence. But race-migrations are a sufficient explanation of the phenomena.

When the Allemans broke through the Heidenmauer and spread themselves over Swabia, they were still a long-headed and probably a very blond race; but they doubtless brought alien serfs in their train, and certainly the further they extended their conquests the more serfs they acquired, until these latter may have even constituted the bulk of the population, with them as with the Bavarians. Their way lay at first through the modern Wurtemberg, which is green and yellow on the map; while Baden, subsequently occupied, comes out blue, and Switzerland and Elsass, later acquisitions, are darker still. In Bavaria and the German Tyrol, the invaders must have been weaker in numbers proportionally, though still strong enough to impose their language, hence the darker colouring there. The frontiers had to be guarded by the military caste; hence perhaps the suggestions of something Lombardic, almost English, in the aspect of the people of Ticino, and of something very German in some remote Tyrolese valleys. The invasion of Switzerland would naturally take place through the gap where the combined Aar, Reuss, and Limmat

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

make their way to the Rhine. Accordingly my map shows the Aargau as blue, with a good proportion of blonds, which dwindles away as we follow the probably radiating tracks of the invaders. The peculiar lightness of Unterwalden reminds one of the traditions about the Scandinavian origin of its people, but is really due in the main

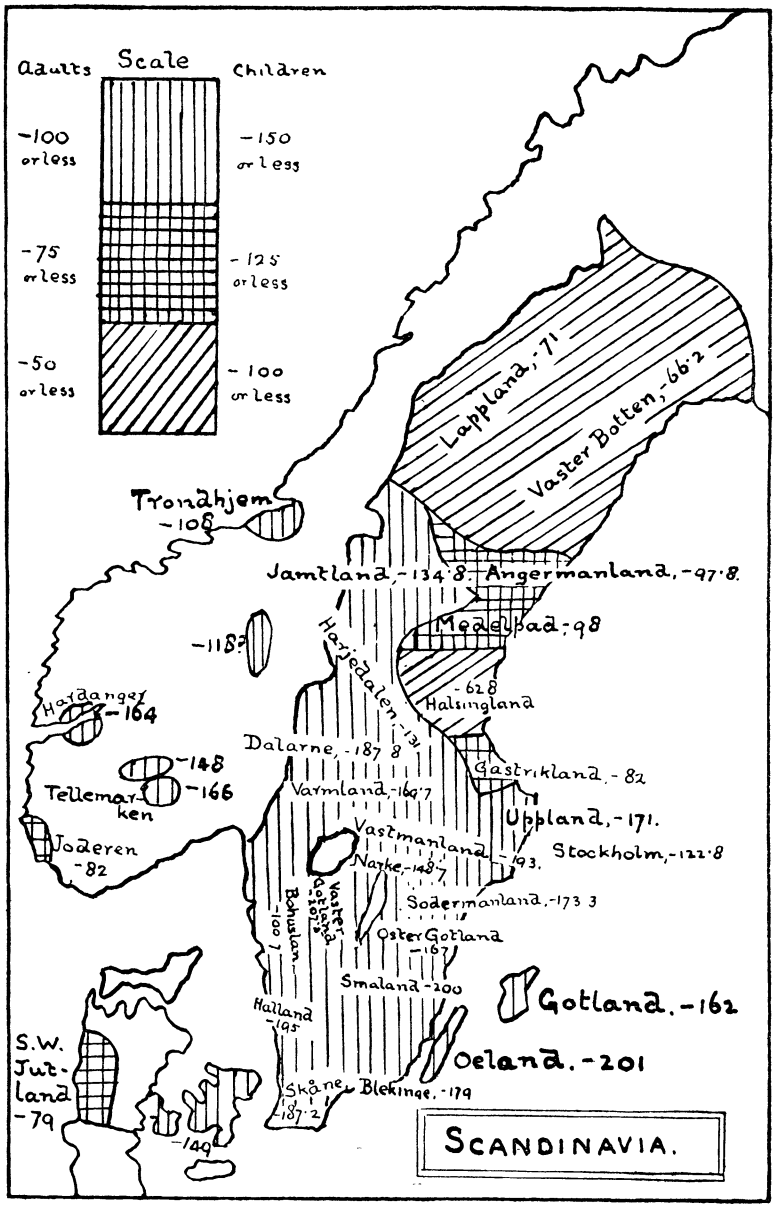


FIG. 1.

to some palpable errors of the observers, which caused Virchow and Kollmann to put this most interesting little canton at the bottom of the list as regards the blond type, and cause me to put it at the top. It is actually rather blond, for Switzerland.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Geneva's position is also remarkable, and much could be said about it, but space fails for its discussion.

The small map of Scandinavia (Fig. 1) has been constructed from the figures of Gustav Retzius and Fürst, for Sweden, of Arbo for Norway, and of Sören-Hansen and Westergaard for Denmark. These last, as I have already said, are exactly on my plan, and therefore very comparable with those for the British Isles. The want of a niche for black hair in Norway (where, however, it scarcely occurs) and the absence of one for medium brown (châtain clair) in Sweden, very slightly impair the comparison by giving the index of nigrescence a little twist to the light side; but this is of no material consequence; the order of the different countries is unaffected by it. My scheme of coloration makes me class the greater part of this region with the very fair north-west of Germany. But if there were another shade of colour which I could prefix to pink on the scale, something more pink than pink itself, to indicate extreme fairness, it would have to be used for at least the central and western parts of Sweden and some districts of Norway. The darkening of the north-eastern parts of Sweden, of Lapland, Westbothnia, Angermanland and Helsingland, must be due partly at least to the admixture of Lappish and Finnish blood; for though the Tavastian Finns, crossed a little perhaps with Swedish strains, are generally fair, there is certainly an underlying strain of the brunet among them. But it is not for nothing that the Lapps lie north of the Swedes and the Tavastians, and the dark Samoyedes north of the parti-coloured or reddish Ostiaks, Voguls and Votiaks. There must surely always have been something in the climatic conditions of central and southern Scandinavia propitious to the blond type, and comparatively unfavourable to the brown, which held its own and flourished to both north and south—conditions which, by natural selection, perpetuated, if they did not evolve, the blond, which nowadays at least seems to persist in southern Europe only by constant reinforcement from the north. There is no reason that I am aware of to think that the brunet type gains in Scandinavia, though the growth of towns in Norway may bring about that effect. One cannot read the old Sagas without knowing that there was considerable variety of complexion in Ireland and Norway in the olden days, probably quite as much as there is now.

We may now turn to the map of the British Isles (Plate XVII), in which, as in that of Scandinavia, an allowance of 50 degrees is made for the difference between adults and schoolchildren.

The inquiries of Virchow, Von Mayr, Schimmer, Kollmann, and Vanderkindere as to children, and of Livi, Retzius and Fürst as to conscripts, covered the entire ground of their respective countries; mine of course could not do so; but every spot on the map indicates a locality where I have inspected the inhabitants, or rather the adults encountered there. The only exceptions are, seven in West Connaught and its islands, two in Donegal, one in Kerry, one in Clare, and one in co Wexford, all worked by Dr. C. Browne, to whose great kindness I owe the ability to use the data of five localities, the schedules of which are yet unpublished; and

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

eight in Great Britain, viz., Sutherland by Dr. Christison, Youlgrave in Derbyshire by Barnard Davis, Flamborough by General Pitt-Rivers, Barley, S. Cambs. by Haddon and Grunbaum—all these are exactly on my lines—the district of Buchan by Gray, Cullen and its fishers by Smith and Gardiner, and Luirbost in the Lewis by Macleay.

The square spots indicate townsfolk, the circular country-folk, so far as they could be distinguished.

The connexion between colour and climate or latitude is not so well marked in Britain as in Germany, though there is a distinct darkening as we proceed from north-east to south-west, *i.e.*, from the colder to the warmer parts of the islands, and from the region of dryness and of extremes to that of moisture and mildness.

But we really have little or no need here to invoke the influence of climate, seeing that almost all the phenomena can be accounted for by historical facts or probabilities—in a general way, by the successive intrusions of tribes or races believed to have been mostly of light complexion, arriving from the north and east, the prior inhabitants having been, to judge from their supposed descendants and from indications in the old Irish literature, more usually dark.

It is not practicable on this occasion to go into many details; but I would like to point out some cases in which the aspect of the map confirms or explains doubtful points in history, and some perhaps in which, after all, we must be left in doubt. Questions of heredity and environment, the latter working usually, we believe, by natural selection, and embracing among other elements elevation, climate in general, occupation, urbanisation, all come out on a survey of the maps.

Thus we may note the comparatively dark hues of the district of Strathnaver in Sutherland. The Mackays or their ancestors, whom Mr. McRitchie would doubtless claim as Pictish, held a difficult country without good harbours; hence probably the comparative absence of the lighter colours which appear wherever the Norsemen intromitted, over the greater part of the Northern Highland country. We have but scanty particulars respecting the peopling of the Eastern Lowlands, from the Forth and Tay to the Findhorn, with English-speaking people. We know something about the captains of the colonisation, but little about the rank and file. They were of mixed nationality; and the English tongue, though it finally prevailed, may perhaps not have been that of the majority. I think the Flemings may possibly even have been the strongest element, and it may be noticed that the colours come out on my map rather like those of Flanders and the Lower Rhine. In certain districts, the persistence of the indigenæ is revealed by the comparative lightness of the eye, compared with the hair, a characteristic, one of several, in which the so-called Celts and Slavs generally agree. Observe the variety of colour in and about Edinburgh. The Anglo-Scandian fisherfolk and the Lothian farmers are represented by the orange spots, the almost equally blond denizens of the small surrounding towns appear yellow, the citizens in general green, and the dark-haired semi-Celts of the Canongate slums are blue.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

The remarkable fairness of the population of the Borders is of interest from several points of view. It is not so clearly marked about the centre of the border line, as it is near either extremity, *i.e.*, near to either Berwick or Carlisle. In the eastern Marches we have the nearly pure Anglian, in the western, the comparatively pure Norseman; in the centre, the Brythonic or, more correctly, the pre-Saxon population has to some extent held its ground.

If we have a mountaineer population anywhere in this low-level land of Great Britain, it is surely at Wanlockhead and Leadhills, well over 1,000 feet above sea-level; and it is clearly blond. Other elevated districts, Braemar, Moffatdale, and above all, Upper Teesdale and the Peak, all come out very fair. The Braemar folk may be descended from Tacitus's "rutilous" Caledonians; and I myself believe the people of the Peak to be very Anglian, in spite of the Keltic place-names thereabout. Still there is something suspicious in the fact that all these high-level people (they are not exactly hillmen) come out so fair—can it be some form of selection at work in a cool and moist climate, such a habitat as seems to be highly congenial to the blond?

The lightness of the Cumberland and Westmorland folk may perhaps be entirely racial; it affects both hill and dale.

Notable points further south are the darker shades found in the centre and south-east Midlands, tracts where we know nothing of any Anglian colonisation, except what the language and place-names tell us, and which are remote from the harbours and great rivers by which such colonisation must have taken place. Stratford-on-Avon and Heyford in Northants are good examples; the numbers at Rugby are too small for dependence. On the other hand, the valley of the Trent, which we know to have had, in early days, a large fighting, *i.e.*, Anglian population, exhibits quite light coloration. Stourport, a town of recent origin, owes its yellow colour, which does not reappear west of the Severn, to a colony from Staffordshire —Yarmouth was full of Londoners when I was there. Braintree in Essex owes its dark colour, I believe, to an old Huguenot colony of silk-weavers.

In the south, Horsham and Ashford, by their darker colours, support the opinion that the Britons of Kent and Sussex, during the English conquest, found a refuge in the forest of the Weald, while the lighter colours of Hampshire, Berkshire, East Wilts and the Cotswolds, testify the strength of the invading population which is supposed to have landed about Portsmouth and Southampton Water.

In South Devon, we know that the Cornish tongue survived into the middle ages; accordingly, the folk are dark in colour like the Welsh and Cornish, as Huxley himself noticed. But there are islands of Saxonry in Devon, especially near harbours, in some cases, I doubt not, of very early settlement, side by side with old British holdings, so that the two races must have lived peaceably within sight of each other. I do not believe the wars of those old days were always so sanguinary as we are led to suppose.

The "barbarous" Saxons were not so cruel as the civilized Romans, who gave

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

them that evil reputation. The Saxons fought for plough-land, the Romans for dominion, booty, and slaves, the Germans of the dark ages for slaves; we fight for trade and commerce; there is no such great difference.

Dark eyes and dark hair are as prevalent in Wales as Radicalism or Nonconformity. There seem to me to be at least two dark stocks, one more like the Irish, tall, grey-eyed and dark-haired, the other shorter with dark almond-shaped eyes, and brown-haired. Someone working on the lines of D. Mackintosh might disentangle these and some other strains. It will be noted that only the part-Flemish populations of S. Pembrokeshire and S. Glamorgan are fair enough for the blue colour. Of the black spots Llandaff may be due to accident or selection, Dinas Mawddwy is remote among the mountains; the colour at Carmarthen Eisteddfod would be partly due to selection by temperament, it being more of a musical gathering than anything else. It is curious that though red hair is more frequent in Wales than in England, the Welsh called the Normans who conquered and annexed Brecon "red-haired people."

The distribution of colour in Ireland is equally interesting with that in the sister island; but there is little space for its discussion. On the whole the natives of the east of Ireland, the descendants of the later invaders, the upper classes, the people with English or Scottish surnames, tend to fairness—the natives of the west, the indigenæ, the labourers and peasants, the people with Keltic surnames, are darker, at least in hair colour.

The band of spots of lighter hue running across from eastern Clare through Limerick and Tipperary to Waterford and Wexford, is worthy of study. The strong Norse colonies of Limerick,[1] Waterford and Wexford have something to do with it; but they doubtless did not constitute the earliest blond settlement, as they were not the latest. The whole tract is rich, fertile and tempting to a conqueror.

In Dr. Browne's amphibious or littoral populations, as in mine, red or light hair generally occurs in large proportions, though General Pitt-Rivers' Flamborough fishermen, in whom black is very common, are a contrary instance.[2] Such communities often have the reputation of being foreign colonies, but the surnames seldom support this belief. Some general characters apply to most of Dr. Browne's islanders, especially the length of face, a characteristic of which the old Gael used to be proud, and the extreme rarity of brown eyes, which can be equalled only in Sweden; but in each island taken separately there is a greater general resemblance, as though the peculiarities of prepotent individuals may have had

[1] It is said, no doubt with much of the usual Irish hyperbole, that after the sack of Limerick there was not a house in Munster wherein there was not a foreign (captive) woman grinding at the handmill.

[2] Note particularly, among Dr. Browne's lists, the people of Inishmaen (Aran) Garumna, Clare Island, and Malin Head, and among mine, those of the Claddagh, of Geileen and of Inishmurray—also in England, the fishers and boatmen of Plymouth, Dover, Yarmouth and Whitby, and in Scotland, of several fishing stations on the east coast.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

more chance of being perpetuated, from absence of crossing, than would have been the case elsewhere. Does exposure to a marine atmosphere favour the production of orange colouring matter? Or has there been a selection of the bold, the adventurous, the sharp-sighted, which has been advantageous to the blue-eyed?

I have said nothing about the theory of temperaments, nor about the supposed connection between them and complexional colours. That there was a basis of truth beneath the ancient doctrine no careful observer can doubt. Thus in lunatic asylums one sees the victim of mania usually with sanguine traits, the melancholic and the insane epileptic most often with straight dark hair. Persons of highly nervous temperament, thought-readers, seers, prophets, are mostly either very black or extremely fair. Note too the preponderance among criminals of dark hair, and yet more clearly of the brown eye (the criminal eye as some have called it) most marked, according to my own statistics, in crimes of violence. We must regret that, from ill-judged governmental parsimony, Dr. Garson is no longer in a position to study this subject to advantage; but from him and from Dr. Shrubsall I hope for further light upon it, or perhaps from Mr. Havelock Ellis's investigations into the relations between complexion and distinction in various walks of life. We must, of course, allow a great deal for possible differences in nomenclature. For example, I do not doubt that Flavus, in the mouth of a Roman, included my medium brown, the French light-chestnut, as Livi's blond category or De Aranzadi's Rubio seemingly does at present; still it is difficult to suppose that the classic authors would have assigned reddish hair to the sanguine, light to the lymphatic, unless the colours they described under those names had been tolerably frequent among the Mediterranean folk, which is not now the case, notwithstanding the great amount of northern blood which has been poured in the southern peninsulas of Europe since their day, The great extent but slow rate of the change may be studied in Woltmann's recent book.[1]

Is a similar change going on among ourselves? The long duration of my observations has not enabled me to be quite certain on the point; but I believe it, as many others. And I regret the diminution of the old blond lympho-sanguine stock, which has hitherto served England well in many ways, but is apparently doomed to give way to a darker and more mobile type, largely the offspring of the proletariat, and more adapted to the atmosphere of great cities. The higher types of Scotchmen in particular, confessedly the dominant breeds of our islands, are being rapidly expended in the service of the empire, or are melting away in the fatal atmosphere of great cities. Will the coming race be able to retain what these men have died to win?

[1] *Die Germanen und die Renaissance in Italien.*

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

TABLE OF ORDER OF BLONDNESS OF THE PROVINCES OF PRUSSIA.

	By Proportion of Pure Blond. (Virchow.) I.	By subtracting blond from brown type of Virchow. II.	By blue eyes children of 12 years and over. III.	By blond hair in all combinations. IV.	Do. in children over 14. V.
1	Sleswig ...	Sleswig ...	Sleswig ...	Sleswig ...	Hannover.
2	Pommern ...	Pommern ...	Hannover ...	Hannover ...	Sleswig.
3	Hannover ...	Hannover ...	Westphal. ...	Pommern ...	Westph.
4	Prussia ...	Prussia ...	Pommern ...	Westphal. ...	Saxony.
5	Westphalia ...	Westphalia ...	Saxony ...	Prussia ...	Pommern.
6	Saxony (prov.)	Brandenburg...	Prussia ...	Saxony ...	Prussia.
7	Posen... ...	Posen... ...	Brandenb. ...	Brandenb. ...	Brandenb.
8	Brandenburg...	Saxony ...	Rhineland ...	Hesse-N. ...	Rhineland.
9	Hesse-Nassau	Hesse-N. ...	Posen ...	Rhineland ...	Hesse-N.
10	Rhineland ...	Rhineland ...	Hesse N. ...	Posen ...	Posen.
11	Silesia ...	Silesia ...	Silesia ...	Silesia ...	Silesia.

The eastern provinces fall, and the western and more purely German ones rise in order of blondness as the children increase in age. Comparing columns I and V, the six western provinces rise from a mean rank of 5·6 to one of 4·5; the eastern, Slav or Slavonised German provinces fall from 6·4 to 7·8.

TABLE OF PIGMENTATION. CENTRAL EUROPE.

Formula $\frac{\text{Hair}}{2\,(\text{Dark} + 2\,\text{Black} - \text{Red} - \text{Fair})} + \frac{\text{Eyes}}{(\text{Dark} - \text{Light})}$

East Prussia.

Gumbinnen (−122)
Johannesburg... −89
Lyck ... ... −94
Gumbinnen ...−105
Sensburg ...−109
Tilsit ... ...−109
Lötzen... ...−114
Insterburg ...−128
Angerburg ...−129
Goldap ...−129
Oletzko ...−130
Darkehmen ...−133
Ragnit... ...−133
Stallupönen ...−136
Heydekrug ...−140

Gumbinnen (*contd.*)—
Pilkallen ...−146
Niederung ...−149
Königsberg (−127)
Königsberg City− 93
Allenstein ...−110
Rastenburg ... 114
Königsbergland 120
Osterode ... 121
Wehlau ... 121
Memel... ... 122
Neidenburg ... 124
Ortelsburg ... 125
Gerdauen ... 129
Rossel 130
Braunsberg ... 133
Mohrungen ... 135

Königsberg (*contd.*)—
Pr. Eylau ... 135
Heibigenbeil ... 136
Heilsberg ... 139
Friedland ... 141
Labiau... ... 141
Fischhausen ... 142
Holland ... 148

West Prussia.

Danzig ... (−123)
Danzig ... −91
Elbing... ... 105
Berent... ... 113
Stargard ... 118
Marienburg ... 121
Danzigland ... 130

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Danzig (*contd.*)—
- Karthaus ... 131
- Neustadt ... 132
- Elbingland ... 157

Marienwerder (—113)
- Thorn ... ... —80
- Kulm 92
- Strasburg ... 93
- Graudenz ... 99
- Schwetz ... 99
- Löbau 104
- Marienwdr ... 113
- Konitz... ... 118
- Stuhm... ... 122
- Flatau... ... 128
- Rosenburg ... 132
- Deutsch Krone 136
- Schlochau ... 143

Posen Province (—91).

Bromberg (—93)
- Mogilno ... —57
- Gnesen ... 77
- Inowraslaw ... 82
- Bromberg ... 86
- Kolmar ... 104
- Wirsitz .. 107
- Czarnikow ... 110
- Wengrowitz ... 119
- Schubin ... 123

Posen.

Posen ... (—88)
- Posen City ... —55
- Pleschen ... 70
- Fraustadt ... 71
- Krotoschin ... 73
- Wreschen ... 80
- Samter ... 80
- Schildberg ... 81
- Kröben ... 87
- Schrimm ... 89
- Kosten ... 89

Posen (*contd.*)—
- Adelnau ... 90
- Posenland ... 98
- Birnbaum ... 98
- Bomst 100
- Schroda ... 102
- Buk 107
- Meseritz ... 117
- Obornik ... 122

Pomerania.

Stralsund... (—127)
- Stralsund City —101
- Franzburg ... 118
- Rügen 121
- Greifswald ... 128
- Grimmen ... 130

Stettin ... (—121)
- Stettin... ... —70
- Greiffenhagen... 91
- Pyritz 103
- Saatzig ... 117
- Uckermünde ... 119
- Kammin ... 120
- Randow ... 123
- Anklam .. 126
- Greifenberg ... 130
- Naugard ... 134
- Usedom ... 136
- Demmin ... 139
- Regenwalde ... 144

Köslin ... (—156)
- Stolp ... ...—135
- Lauenburg ... 141
- Bütow 148
- Kolberg ... 154
- Bublitz ... 155
- Dramburg ... 158
- Rummelsburg... 159
- Köslin... ... 159
- Schlawe ... 161
- Neustettin ... 172
- Schivelbein ... 180

Brandenburg.

Frankfort-on-Oder (—114)
- Kalau ... —95
- Krossen ... 100
- Frankfort ... 101
- Sorau 107
- Zullichau ... 109
- Königsberg ... 113
- Friedeburg ... 114
- Kottbus ... 114
- Lebus 115
- Lubben ... 116
- Luckau ... 117
- Landsberg ... 117
- Soldin 117
- W. Sternberg ... 119
- Spremberg ... 123
- E. Sternberg ... 127
- Arnswalde ... 132
- Guben 132

Berlin ... ... —78

Potsdam ... (—121)
- Potsdam ... —96
- Teltow... ... 112
- Brandenburg ... 113
- Templin ... 115
- Zauche-Belzig... 115
- Oberbarnim ... 116
- Ruppin ... 116
- Angermünde ... 117
- E. Havelland ... 117
- Niederbarnim... 117
- Pranzlau ... 121
- Suterbog ... 130
- W. Havelland... 136
- Beeskow ... 140
- E. Priegnitz ... 143
- W. Priegnitz ... 145

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Silesia.

Liegnitz ...	(−81)
Liegnitz City ...	−38
Landshut ...	65
Hoyersverda ...	67
Leignitzland ...	68
Hirschberg ...	73
Gorlitz ...	73
Grunberg ...	75
Jauer	75
Löwenberg ...	76
Goldberg H. ...	79
Freistadt ...	80
Sagau	83
Schonau ...	86
Lüben	89
Rothenburg ...	89
Bunzlau ...	90
Sprottau ...	94
Glogau... ...	94
Bolkenhaïn ...	94
Lauben ...	97
Breslau ...	(−79)
Breslau City ...	−49
Neurode ...	68
Glatz	71
Striegau ...	71
Wartemberg ...	72
Trebnitz ...	73
Gehrau ...	77
Schweidnitz ...	77
Breslauland ...	78
Militsch ...	79
Habelschwert ...	79
Brieg	79
Waldenburg ...	80
Neumarkt ...	81
Strehlen ...	84
Reichenbach ...	85
Frankenstein ...	87
Breslau (*contd.*)—	
Münsterberg ...	90
Ohlau	91
Oels	92
Steinau ...	98
Wohlau ...	102
Nimpch ...	112
Namslau ...	121
Oppeln ...	(−60)
Rybnik ...	−30
Pless	32
Kattowitz ...	41
Tostgleiwitz ...	52
Strehlitz ...	53
Beuthen ...	58
Ratibor ...	58
Zabrze... ...	60
Kreutzberg ...	64
Oppeln ...	64
Lublinitz ...	65
Kosel	69
Leobschütz ...	71
Neisse	72
Falkenberg ...	72
Tarnowitz ...	74
Neustadt ...	74
Rosenberg ...	85
Grottkow ...	94
Schleswig	(−156)
Altona...	...−133
Rendsburg ...	143
Schleswig ...	147
Oldenburg ...	151
Pinneburg ...	151
Stormarn ...	151
Eiderstedt ...	151
Kiel	152
Lauenburg ...	152
Eckernförde ...	153
Steinburg ...	153
Segeberg ...	158
Schleswig (*contd.*)—	
Apenrade ...	158
Sonderburg ...	161
Plön	163
Flensborg ...	164
Tondern ...	172
2 Dithmarshen	173
Husum ...	173
Hadersleben ...	176
6 Frisian Isles (Virchow)	183[1]

Pruss. Saxony.

Magdeburg	(−134)
−Wernigerode ...	96
Magdeburg ...	110
Jerichow I. ...	118
Aschersleben ...	123
Kalbe	126
Osterburg ...	129
Halberstadt ...	131
Stendal ...	137
Jerichow II. ...	138
Wohlmirstadt...	143
Oschersleben ...	148
Salzwedel ...	148
Neuhaldensleben	149
Wanzleben ...	150
Gardelegen ...	156
Merseburg	(−105)
−Zeitz	83
Weissenfels ...	83
Naumburg ...	89
Sangershausen	92
Wittemberg ...	95
Querfurt ...	97
Liebenwerda ...	105
Eckartsberga ...	105
Delitsch ...	105
Merseburg ...	109
Torgau... ...	110

[1] Everything over 170 is wholly or partly Danish or Frisian.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Merseburg (*contd.*)—
- Bitterfeld ... 110
- Saalkreis ... 115
- 2 Mansfelds ... 117
- Schweinitz ... 121
- Halle 125

Erfurt ... (—91)
- —Weissensee ... 57
- Erfurt City ... 61
- Ziegenrück ... 69
- Shleusingen ... 72
- Mühlhausen ... 84
- Nordhausen ... 95
- Langensalza ... 101
- Heiligenstadt ... 109
- Erfurtland ... 113
- Werbis ... 119

Hannover (—139)
- Wennigsen ...—120
- Hannover City 123
- Hameln ... 127
- Hannoverland... 148
- Hoya 150
- Nienburg ... 150
- Diepholz ... 158

Stade ... (—169)
- Verden ...—149
- Marshkreis ... 157
- Geestkreis ... 163
- Rothenburg ... 171
- Neuhaus ... 172
- Osterholz ... 176
- Lehe 182
- Otterndorf ... 186

Lüneburg (—159)
- Celle ... ...—150
- Lüneburg ... 152
- Dannenburg ... 154
- Gifhorn ... 155
- Uelzen... ... 157
- Fallingbostel ... 168
- Harburg ... 172

Osnabrück (—134)
- Meppen ...—122
- Lingen... ... 130
- Melle 137
- Osnabrück ... 139
- Bersenbrück ... 144

Aurich ... (—160)
- Leer ... ...—153
- Aurich... ... 164
- Emden... ... 166

Hildesheim (—123)
- Liebenburg ...—113
- Marienburg ... 114
- Osterode ... 119
- Einbeck ... 120
- Göttingen ... 121
- Zellerfeld ... 122
- Hildesheim ... 149

Westphalia (—129)

Münster (—128)
- Kösfeld ... —97
- Ludwigshausen 98
- Recklinghausen 198
- Borken ... 121
- Münster City ... 127
- Steinfurt ... 131
- Beckum ... 141
- Ahaus 143
- Warendorf ... 145
- Tecklenburg ... 148
- Münsterland ... 158

Minden ... (—134)
- Paderborn ... —99
- Büren 107
- Warburg ... 107
- Höxter ... 113
- Minden ... 142
- Lübbecke ... 143
- Halle 147
- Wiedenbruck ... 150
- Herford ... 153
- Bielefeld ... 158

Arnsberg (—126)
- Brilon ... ...—108
- Iserlohn ... 111
- Lippstadt ... 119
- Olpe 121
- Altena... ... 121
- Hagen 122
- Meschede ... 122
- Arnsberg ... 123
- Bochum ... 127
- Dortmund ... 129
- Soest 133
- Siegen 133
- Wittgenstein ... 134
- Hamm... ... 142

Hessenassau (—96)

Wiesbaden (—90)
- Frankfurt-o-M. —62
- Rheingau ... 62
- Wiesbadenland 78
- Untertaunus ... 81
- Unterlahn ... 84
- Obertaunus ... 94
- Unterwesterwald 95
- Wiesbaden City 97
- Oberlahn ... 106
- Biedenkopf ... 114
- Oberwesterwald 116
- Dillkreis ... 121

Cassel ... (—101)
- Hanau... ... —64
- Schmalkalden... 75
- Cassel City ... 83
- Schlüchtern ... 83
- Hünfeld ... 87
- Ziegenhain ... —92
- Hersfeld ... 94
- Melsungen ... 97
- Hofgeismar ... 99
- Homberg ... 101
- Gersfeld ... 101
- Gelnhausen ... 106
- Rothenburg ... 106

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Cassel (*contd.*)—
Fritzlar ... 108
Cassel Land ... 110
Eschwege ... 111
Fulda 116
Witzenhaus ... 117
Kirchhain ... 118
Wolfhagen ... 120
Marburg ... 124
Frankenberg ... 125
Rinteln ... 147
Rhineland (−75)
Düsseldorf (right bank).
Düsseldorf City −74
Düsseldorfland 85
Barmen ... 92
Mülheim ... 99
Mettman ... 100
Elberfeld ... 102
Essen City ... 106
Essenland ... 113
Rees 115
Solingen ... 120
Lennep ... 131
Left bank.
Neuss ... ... −58
Kemper ... 82
Cleve 83
Grevenbrai ... 85
Geldern ... 95
Gladbach ... 99
Mörs 104
Köln (right bank).
Siegkreis ... −98
Gummersbach 101
Wipperfürth ... 104
Waldbröl ... 112
Mülheim ... 123
Left bank.
Köln City ... −55
Bonn 66
Euskirchen ... 74
Kölnland ... 75

Left bank (*contd.*)—
Rheinbach ... 75
Bergheim ... 77
Koblenz (right bank).
Neuwied ... −94
Wetzlar ... 101
Altenkirchen ... 119
Left bank.
Koblenz ... −54
Kochem ... 55
Mayen... ... 60
Kreuznach ... 63
Ahrweiler ... 66
St. Goar ... 71
Meisenheim ... 86
Zell 89
Adenau ... 89
Aachen ... (−58)
Aachen City ... −28
Aachenland ... 43
Eupen 45
Jülich 46
Geilenkirchen... 53
Schleiden ... 69
Montjoie ... 70
Malmedy ... 72
Hersberg ... 73
Düren 75
Erkelenz ... 92
Trier ... (+45)
Trier City ... −11
Saarburg ... 12
Merzig... ... 30
Trierland ... 33
Saarlouis ... 43
Bitburg ... 44
St. Wendel ... 47
Saarbrücken ... 49
Berncastel ... 52
Ottweiler ... 53
Wittlich ... 60
Daun 61
Prüm 75

Hohenzollern.
Sigmaringen ... −31
Rest of H. ... 45
Mecklenburg Sch. (−130)
Ludwigslust ...−112
Wismar ... 114
Hagenaw ... 120
Waren... ... 122
Schwerin ... 126
Güstrow ... 127
Parchim ... 128
Malchin ... 133
Rostock ... 134
Doberan ... 140
Gravesmühlen 145
Ribnitz ... 146
N. Strelitz (−128)
Neustrelitz ...−118
Neubrandenburg 125
Schönberg ... 163
Lubeck City ...−129
L. Principality −155
Bremen ... ...−146
Brunswick (−151)
Braunschweig...−156
Wolfenbüttel ... 147
Gandersheim, Holzminden } 148
Helmstedt ... 150
Blankenburg ... 157

Lippe.
Detmold ...−101
Schaumburg ...−125
Waldeck ... ...−129
Anhalt ... (−118)
Ballenstadt ...−111
Dessau, Kothen, Zerbst ... 122
Bernburg ... 139
Oldenburg (−172)
Vechta ...−136
Friesoythe ... 140

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Oldenburg (contd.)—	
Löningen ...	157
Berne	160
Elsfleth ...	163
Damme ...	166
Brake Ovelgonne	171
Westerstede ...	171
Jever	176
Delmenhorst ...	176
Varel	177
Oldenburg ...	178
Kloppenburg ...	188
Stoltham ...	194
Wildeshausen...	197
Birkenfeld ...	−51
Coburg-Gotha.	
Gotha	−51
Coburg ...	94
Saxe-Weimar-Eisenach ...	(−82)
Weimar	−76·7
Neustadt ...	80
Eisenach ...	87
Dermbach ...	96
Saxe-Meinengen	(−68·5)
Sonneberg ...	−61
Hildburghausen	66
Saalfeld ...	73
Meiningen ...	74
S. Altenburg ...	−46
Reuss.	
Elder (Greiz, etc.)	−40
Younger (Gera, etc.)... ...	72
Saxony ...	(−85)
Zittau	−97
Döbeln ...	96
Meissen ...	95
Glauchau ...	93
Grimma ...	90
Leipzig ...	88
Saxony (contd.)—	
Freiberg ...	86
Annaberg ...	86
Zwickau ...	84
Dresden ...	82
Bautzen ...	82
Pirna	80
Plauen... ...	78
Chemnitz ...	76
Rochlitz ...	69
Schwarzburg.	
S. Sondershausen (Upper) ...	−41
Ditto. (Lower)	65
S. Rudolstadt (Upper) ...	−110
Ditto. (Lower)	134
Hesse.	
Oberhessen	(−84)
Budingen ...	−66
Giessen ...	75
Friedberg ...	81
Alsfeld ...	82
Lauterbach ...	93
Schotten ...	110
Starkenburg	(−53)
Benzheim ...	−39
Dieburg ...	41
Gr. Gerau ...	48
Offenbach ...	55
Erbach ...	55
Darmstadt ...	66
Heppenheim ...	68
Rheinhessen	(−53)
Worms ...	−49
Oppenheim ...	53
Mainz	54
Alzey	58
Bingen ...	61
Bavaria ...	... (−7)
Pfalz ...	(−11)
Bavaria (contd.)—	
Speyer... ...	+3
Landau ...	1
Bergzabern ...	−3
Zweibrücken ...	−4
Kaiserslautern	10
Pirmasens ...	14
Frankenthal ...	16
Kirchheim ...	16
Neustadt ...	16
Germersheim ...	17
Kusel	22
Homburg ...	23
Lower Franconia	(−40)
Kitzingen ...	−10
Aschaffenburg...	18
Wurzburg ...	20
Gerolzhofen ...	27
Ochsenfurt ...	31
Karlstadt ...	38
Melrichstadt ...	39
Königshofen ...	41
Alzenau ...	44
Lohr	45
Hassfurt ...	48
Kissingen ...	49
Ebern	52
Obernburg ...	53
Miltenberg ...	55
Hammelburg ...	55
Schweinfurt ...	55
Marktheidenfeld	57
Bruckenau ...	69
Neustadt ...	72
Middle Franconia	(−9)
Eichstadt ...	+25
Hersbruck ...	+9
Nürnberg ...	+2
Fürth	−0·2
Beilngries ...	−1
Ansbach ...	7
Schwabach ...	9
Heilsbronn ...	10

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Middle Franconia (*contd.*)—	
Offenheim ...	12
Weissenburg ...	15
Dinkelsbühl ...	17
Neustadt ...	21
Gunzenhausen	24
Erlangen ...	25
Feuchtwangen	26
Scheinfeld ...	27
Rothenburg-a-T.	33
Upper Franconia (−33)	
Bamberg I. ...	−5
Bamberg II. ...	16
Kranach ...	22
Forchheim ...	24
Steinach ...	26
Hof	28
Lichtenfels ...	29
Hochstadt ...	31
Bayreuth ...	33
Berneck ...	36
Pegnitz ...	37
Staffelstein ...	37
Münchberg ...	40
Rehau	43
Kulmbach ...	46
Ebermanstadt...	51
Teuschnitz ...	54
Wunsiedel ...	62
Swabia ... (+ 4)	
Wertingen ...	+ 24
Dillingen ...	23
Augsburg ...	19
Memmingen ...	16
Donauworth ...	13
Kaufbeuren ...	11
Nördlingen ...	11
Sonthofen ...	4
Krumbach ...	3
Kempten ...	+ 1
Neuburg ...	− 0·6
Lindau... ...	− 6

Swabia (*contd.*)—	
Mindelheim ...	9
Gunzburg ...	11
Fussen... ...	16
Illertissen ...	29
Neu Ulm ...	31
Zozmarshausen	37
Oberdorf ...	45
Oberpfalz ... (+ 7)	
Roding ...	+ 37
St. am Hof ...	29
Regensburg ...	26
Neumarkt ...	21
Burglengenfeld	19
Hamau ...	19
Sulzbach ...	18
Amberg ...	15
Cham	9
Tirschenreuth ...	+ 7
Eschenbach ...	− 4
Vohenstrauss ...	4
Velburg ...	4
Waldmunchen	5
Nabburg ...	7
Neustad ...	15
Neunburg ...	20
Kemnath ...	42
Upper Bavaria (+ 20)	
Aichach ...	+ 64
Erding ...	58
Berchtesgaden	47
Miesbach ...	42
Brück	35
Traunstein ...	33
München L^{t} ...	32
Rosenheim ...	31
Weilheim ...	26
München R^{t} ...	25
Schongau ...	25
Laufen... ...	24
Muhldorf ...	24
Altötting ...	22
Ingolstadt ...	21

Upper Bavaria (*contd.*)—	
Freising ...	20
Ebersburg ...	14
Dachau ...	12
Landsberg ...	8
Pfaffenhofen ...	5
Tölz	+ 4
Friedburg ...	− 1
Schrobenhausen	3
Werdenfels ...	6
Wasserburg ...	8
Munchen City ...	+ 25
Lower Bavaria (+35)	
Landau ...	+ 84
Wegscheid ...	65
Straubing ...	50
Deggendorf ...	48
Eggenfelden ...	43
Pfaffkirchen ...	43
Kötzting ...	40
Landshut ...	40
Vilsbiburg ...	36
Passau ...	36
Griesbach ...	30
Bogen	28
Grafenau ...	28
Viechtach ...	27
Regen	24
Wolfstein ...	24
Vilshofen ...	23
Mellersdorf ...	22
Rottenburg ...	21
Kolheim ...	9
Dingolfing ...	7
Alsace ... (+ 32)	
Rappoldsweiler	+ 75
Schletstadt ...	+ 53
Gebweiler ...	+ 45
Erstein ...	+ 45
Mulhausen ...	43
Thann	42
Strasburg ...	30
Kolmar ...	29

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Alsace (*contd.*)—	
Molsheim ...	25
Hagenau ...	16
Altkirch ...	15
Weissenburg ...	14
Strasburgland	12
Zabern... ...	+ 7
Lorraine ...	(+ 26)
Saarburg ...	45
Saargemünd ...	45
Metzland ...	30
Salzburg ...	27
Diedenhofen ...	26
Bolchen ...	21
Forbach ...	— 3
Metz city ...	— 21
Baden ...	(— 29)
Karlsruhe ...	— 17
Mannheim, Freiburg	— 17
Waldshut ...	23
Baden	24
Lörrach ...	24
Offenburg ...	26
Konstanz ...	28
Villingen ...	31
Heidelberg ...	37
Mosbach ...	38
Württemberg	(— 42)
Jaxt ...	(— 46)
Hall	— 18
Scharndorf ...	26
Neresheim ...	27
Elwangen ...	30
Crailsheim ...	31
Aalen	39
Walzheim ...	41
Guildorf ...	49
Gmünd ...	49
Heiderheim ...	53
Gerabronn ...	55
Mergentheim ...	58
Kunselsau ...	69

Württemberg (*contd.*)—	
Oehringen ...	75
Neckar	(— 45)
Neckarsulm ...	—27
Stuttgart city ...	28
Heilbronn ...	30
Esslingen ...	30
Canstatt ...	32
Ludwigsburg ...	39
Stuttgartland ...	41
Leonberg ...	44
Bachnang ...	50
Vaihingen ...	52
Brackenheim ...	53
Böblingen ...	54
Besigheim ...	55
Weinsberg ...	61
Maulbronn ...	62
Waiblingen ...	63
Morbach ...	75
Schwarzwald	(— 43)
Spaichingen ...	— 15
Rottenburg ...	19
Nürtingen ...	24
Reutlingen ...	30
Herrenberg ...	36
Rottweil ...	38
Oberndorf ...	41
Tuttlingen ...	42
Horb	43
Nagold ...	44
Balingen ...	49
Urach	49
Tübingen ...	49
Calw	54
Neuenburg ...	65
Freudenstadt ...	67
Sulz	70
Donau ...	(— 35)
Kirchheim ...	— 15
Tettnang ...	18
Riedlingen ...	22
Saulgau ...	23

Württemberg (*contd.*)—	
Ravensburg ...	27
Ehingen ...	29
Göppingen ...	29
Leutkirch ...	31
Munsingen ...	34
Biberach ...	36
Laupheim ...	36
Wangen ...	37
Blaubeeren ...	45
Waldsee ...	45
Ulm	48
Geislingen ...	81

AUSTRIA.

Bohemia.

Czech districts	(+ 61)
Munchengrätz	+ 93
Koniggrätz city	92
Chotabor ...	86
Neubydzof ...	75
Mühlhaüsen ...	73
Horowitz ...	71
Turnau ...	71
Pisek	70
Kolin	67
Strakonitz ...	66
Schlan ...	65
Podiebrad ...	64
Caslau	64
Jungbunzlau ...	64
Melnik ...	64
Blatna ...	62
Prestic... ...	61
Hohenmauth ...	60
Böhm-Brod ...	59
Semil	58
Wittingau ...	57
Ledec	55
Jicin	53
Koniggrätz Envi^{s}	49
Tabor	49
Selcan	49

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Czech districts (*contd.*)—	
Moldautein ...	48
Reichenau ...	47
Neustadt a. d. M.	47
Pilgram ...	44
Starkenbach ...	44
Kattenberg ...	38
Beneschau ...	34
Deutsch Brod	+ 30
Mixed districts	(+ 37)
Karolinenthal...	+ 81
Pribràm ...	65
Smichor ...	59
Raudnitz ...	57
Pilsen	57
Chrudim ...	57
Prag	55
Policka ...	55
Taus	52
Kralowitz ...	51
Klattau ...	51
Pardubitz ...	50
Laun	47
Schuttenhofen	30
Koniginhof ...	30
Budweis ...	27
Leitomischl ...	25
Polna	14
Brennau ...	+ 13
Senftenburg ...	— 5
Neuhaus ...	5
Landskron ...	6
Leitmeritz ...	30
Mies	— 43
German districts	(— 33)
Krumau ...	+ 18
Bischofteinitz ...	+ 13
Reichenberg town ...	+ 11
Kaplitz ...	+ 3
Komatau ...	— 11
Aussig ...	17
Teplitz... ...	20

German districts (*con.*)—	
Bohm-Leipa ...	23
Falkenau ...	24
Reichenberg ...	24
Plan	27
Dauba	28
Brüx	29
Tachau ...	31
Graslitz ...	33
Trautenau ...	35
Eger	36
Podersam ...	41
Karlsbad ...	42
Asch	42
Hohenelbe ...	43
Kaaden ...	44
Schluchenau ...	45
Saaz	47
Gablonz ...	47
Tetschen ...	57
Joachimsthal ...	58
Rumburg ...	64
Friedland ...	65
Luditz	65
Gabel	67
Tepl	— 69
Moravia ...	(+ 37)
Czech ...	(+ 65)
Gaya	+ 82
Ungar Brod ...	84
Wall Meseritsh	73
Boskowitz ...	69
Gross Meseritsh	66
Hollichau ...	60
Mistek... ...	52
Neustadl ...	51
Kremsierland ...	51
Tubitsh ...	47
Prossnitz ...	+ 29
Mixed ...	(+ 29)
Ungar Hradisch-land ...	+ 74
Iglauland ...	72

Mixed (*contd.*)—	
Ung. Brod ...	68 ?
Brunnland ...	50
Kromau ...	42
Wischau ...	38
Hohenstadt ...	37
Göding ...	36
Dachitz ...	36
Wersskirchen ...	34
Prerau ...	28
Littau	23
Znaim land ...	+ 22
Neutitshin ...	— 4
Olmutz land ...	13
Mahrish Trubau	14
Schönberg ...	15
Sternberg ...	— 27
German ...	(+ 0·1)
Brünn	+ ·16
Ungar Hradish City... ...	+ 1
Ungar Brod	+ 0·4 ?
Nikolsburg ...	— 1
Kremsier city...	— 1·5
Iglau „ ...	— 4
Znaim „ ...	— 6
Olmütz „ ...	— 6
Römerstadt ...	— 22
Austrian Silesia	(— 26)
Troppau city ...	+ 19
Bielitz-land ...	+ 7
Friedeck ...	+ 0·5
Teschen ...	— 1
Freistadt ...	10
Freiwalden ...	18
Troppau-land ...	29
Bielitz town ...	29
Jagerndorf ...	32
Hotzenplatz ...	45
Freudenthul ...	— 46

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

GALICIA (+ 44·7).

Polish.

Wedowicz ...	+ 44
Neu Sandek ...	44
Myslenice ...	41
Bochnia ...	34
Krakau land ...	31
Jaslo	29
Krakau city ...	29
Rzeszow ...	24
Tarnay... ...	13
Mielec	4
Ropczyce ...	+ 1
Pilsno	− 1
Mean of Poles...	+ 24
Do. of Boiks and Huzuls ...	+ 81
Do. of other Russniaks ...	+ 44

Russniak.

Zalesczyski ...	+ 78
Czortkow ...	73
Zolkiew ...	72
Przemysl ...	68
Hussiatyn ...	67
Mosciska ...	65
Stanislaw ...	61
Zloczow ...	58
Brzezany ...	56
Rohatyn ...	52
Tarnopol ...	48
Jaroslav ...	44
Lembergland ...	43
Sambor ...	42
Lemberg city ...	37
Sanok	34
Sokol	33
Grodek ...	31

Mean of Boiks & Huzuls.

H Snyatin ...	+ 96
H Nadwarna ...	95
H Kolomea ...	88
B Stry ...	88
H Kolusz ...	81
B Drohobycz ...	76

Bukowina.

H Wiznitz ...	+ 60
Czernowitz land	58
Sereth ...	52
Suczawa ...	51
Czernowitz city	47
Radautz ...	45
R Kotzmann ...	44
Kimpolung ...	33
Storozynetz	30
Styria ...	(+ 6)
W Luttenberg	+ 69
W Marburg city	46
W Pettau ...	39
W Radkersburg	20
W Marburgland	19
Gröbming ...	12
Gräz land ...	11
Rann ...	9
Leoben ...	7
Leibnitz ...	2
Waitz ...	2
Lietzen ...	+ 1
W Windishgräz	− 2
Murau ...	6
W Cilli land ...	6
D. Landsberg	8
Bruck a. d. M.	10
W Cilli, city ...	11·5
Feldbach ...	12
Hartberg ...	18
Judenburg ...	− 32

Those marked W are Wendish wholly or in part.

German Styria	+ 2·7
Wendish Do.	+ 13·4
Carinthia...	(+ 29)
Vilach ...	+ 61
W Volkermarkt	57
Klagenfurt land	48
Spital ...	44
St. Veit ...	34
Hermagor ...	13
Klagenfurt city	8
Wolfsberg ...	2
Lower Austria	(+ 10)
Lilienfeld ...	+ 38
Sechshaus ...	25
Brück a. d. L. ...	21
Gr. Enzersdorf	21
Wien	17
St. Polten ...	17
Hernals ...	16
Wiener Neustadt	15
Scheibbs ...	14
Krems ...	11
W^r Neust^ct land	11
Baden	9
Kornenburg ...	6
Zwettl ...	3
Amstetten ...	+ 2
Horn	− 0·4
Waidhofen city	− 3
Mistelbach ...	4
Neunkirchen ...	10
Waidhofen land	10
Oberhollabrunn	− 16
Carniola (Krain)	(+ 60)
Laibach city ...	+ 81
Loitsch ...	79
Gurkfeld ...	77
Stein	74
Littai	66
Radmansdorf ...	64
Czernembl ...	54
Laybach land ...	53
Rudolfswerth ...	52
Gottschee ...	44
Adelsberg ...	35

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Carniola, etc. (*contd.*)—	
Krainburg ...	24
Upper Austria	(+ 14)
Gmunden ...	+ 43
Voklabruk ...	38
Steyr city ...	31
Ried	29
Perg	24
Steyr land ...	13
Kirchdorf ...	12
Linz city ...	12
Wels	9
Braunau ...	9
Rohrbach ...	5
Linz land ...	+ 5
Schärding ...	— 5
Freistadt ...	— 9

Tyrol.

German ...	(+ 35)
Bozen land ...	+ 82
Innspruck land	62
Bozen city ...	59
Schwaz ...	56
Innspruck ...	45
Meran	37
Imst	33
Landeck ...	29
Kitzbuhel ...	29

German (*contd.*)—	
Brixen ...	21
Bruneck ...	13
Kufstein ...	+ 10
Reutte ...	— 2
Lienz	— 8
Italian ...	(+ 97)
Roveredo city ...	+173
Riva	137
Primiero ...	118
Trient city ...	110
Tione	109
Borgo	98
Roveredo land...	95
Cles	94
Trient land ...	87
Cavalese ...	76
Ampezzo ...	30 ! ?
Vorarlberg.	
Bludenz ...	+ 37
Bregenz ...	35
Feldkirch ...	14
Salzburg ...	(+ 44)
Tamsweg ...	+ 59
Salzburg city ...	58
Zell	56
St. Johann ...	51
Salzburg land ...	26

Triest, Görz, etc.	
Tolmein ...	+105
Triest city ...	98
Gradiska ...	97
Görz, land ...	92
Sessana ...	78
Görz city ...	56
Triest land ...	47
Istria ...	(+ 92)
Rovigno ...	+143
Volusca ...	114
Capo d'Istria ...	97
Pola	97
Parenzo ...	82
Lussinpiccolo ...	74
Mitterburg ...	39
Dalmatia...	(+ 108)
Bencovac ...	+156
Imoski... ...	147
Ragusa ...	131
Sign	127
Cattaro ...	115
Lessina ...	114
Knin	106
Spalato ...	102
Sebenico ...	81
Zara	78
Curzola ...	62
Macaresca ...	54

Switzerland.

	(+ 202)	or (+ 6·7).
Graubunden ...	+ 69	+ 57
Ticino	65	+ 58
Glarus	53	+ 37
Zug	38	+ 24
Vaud	37	+ 26
Sangallen ...	33	+ 17
Appenzell out	28	+ 12
Freiburg ...	25	+ 11
Thurgau ...	25	+ 14
Luzern	23	+ 4
Wallis	22	+ 10

	(+ 202)	or (+ 6·7).
Obwalden ...	21	— 8
Zurich	19	+ 9
Neuchatel ...	19	+ 6
Uri	17	+ 5
Bern-Jura ...	16	+ 0·4
Solothurn ...	13	= 0
Schwyz... ...	12	+ 1
Appenzell in ...	12	— 12
Bern-Tiefland ...	9	— 8
Schaafhausen ...	6	— 8
Basel City ...	3	— 8

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

	(+ 202) or (+ 6·7).			(+ 202) or (+ 9·7).
Bern-Oberland...	2	− 10	Aargau... ...	− 6	− 18·6
Basel Land ...	+ 1	− 10	Nidwalden ...	− 97	−114
Geneva... ...	− 2	− 14·8			

Here the second column represents the figures for the respective cantons as they would stand if the blue eyes were always reckoned at one-half of the whole number of light eyes observed, which is about the proportion given in all the districts directly north of Switzerland. To the east, in Vorarlberg and Tyrol, and to the south in Piedmont, Lombardy and Venetia, the grey eyes generally, and sometimes very largely, outnumber the blue; but not to so great an extent as in the Swiss statistics. Kollmann seems to think the paucity of blue eyes in Switzerland due to Slavonic blood; for which I should read Rhœtian; but it is evidently in part a question of nomenclature; probably the truth lies somewhere between the two columns.

Belgium.

Turnhout	−61	Turnhout − 94	Marche	+ 6	
Dendermond	60		Verviers	6	Town + 16
Hasselt	53	Achel − 71	Namur	11	
Mechlin	46		Dinant	15	
Antwerp	42	City − 27	Arlon ...	16	
Furnes	35		Nivelles	17	
Bruges	37		Liège ...	21	City + 9
Löwen...	27	City − 12	Huy ...	27	
Tongern	25		Neufchateau	27	
Kortryk	24		Charleroi	27	
Gent ...	23	City + 17	Mons ...	28	
Audenarde	18		Tournai	+39	
Bruxelles	16	City − 20			
Ypern	− 9	{ Messines and Wervicq } +14			

As Vanderkindere, like Virchow, Schimmer and Kollmann, made no category for neutral (light chestnut) hair, I get my index of nigrescence without the omission of this. And as he made no category for Virchow's grey or for my neutral eyes, I estimated that the half of his light (clair) eyes were blue, and the other half grey or neutral. I did not double Vanderkindere's black hair, because, whereas there is really very little black hair in Flanders and Brabant outside the towns, but plenty in the Walloon country, I satisfied myself by comparison with my own figures that the Flemish observers called all very dark brown black. I therefore abstained from doubling the "black." In this way I have, I think, brought the Belgian figures into something like harmony with the others. Probably those for the Walloon country are not quite dark enough.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

Holland.

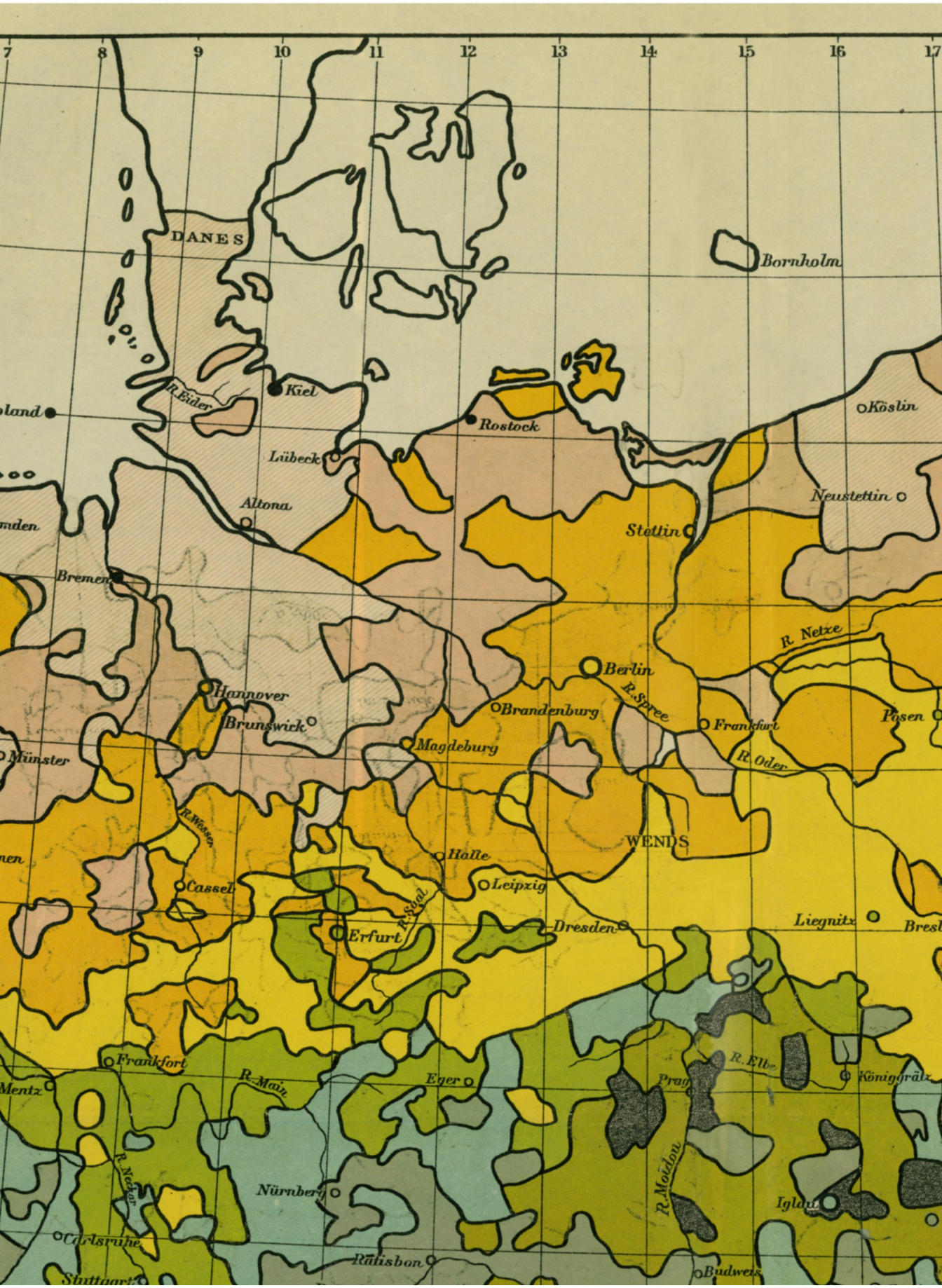
	No.			No.		
Walcheren	(166)	+ 2·3 or	— 19	Zealand		+ 0·4 or — 27
Schouwen	(59)	+ 14·3	— 47	Tholen	(51)	— 3·6 — 89
N. Beveland	(14)	— 95	— 22	Continental	(101)	— 1·2 — 20
S. Beveland	(26)	+ 15				

All the observations in Holland, the above by De Man and the following by myself, were taken on adults, and are reduced by 50 degrees to bring them into accord with the German and Belgian ones. Dr. De Man, like the Belgian observers, seems to give a wide extension to the word "black." In the last column above, "black" is treated as dark brown—the fact may lie between the two. In other respects De Man followed my methods. I have confidence in his results.

	No.			No.	
Groningen	(100)	— 183	The Hague	(250)	— 97
Friesland	(127)	— 165	Leyden	(137)	— 23
Rotterdam	(250)	— 113	Scheveningen fishers	(17)	— 161
Amsterdam	(250)	— 73			

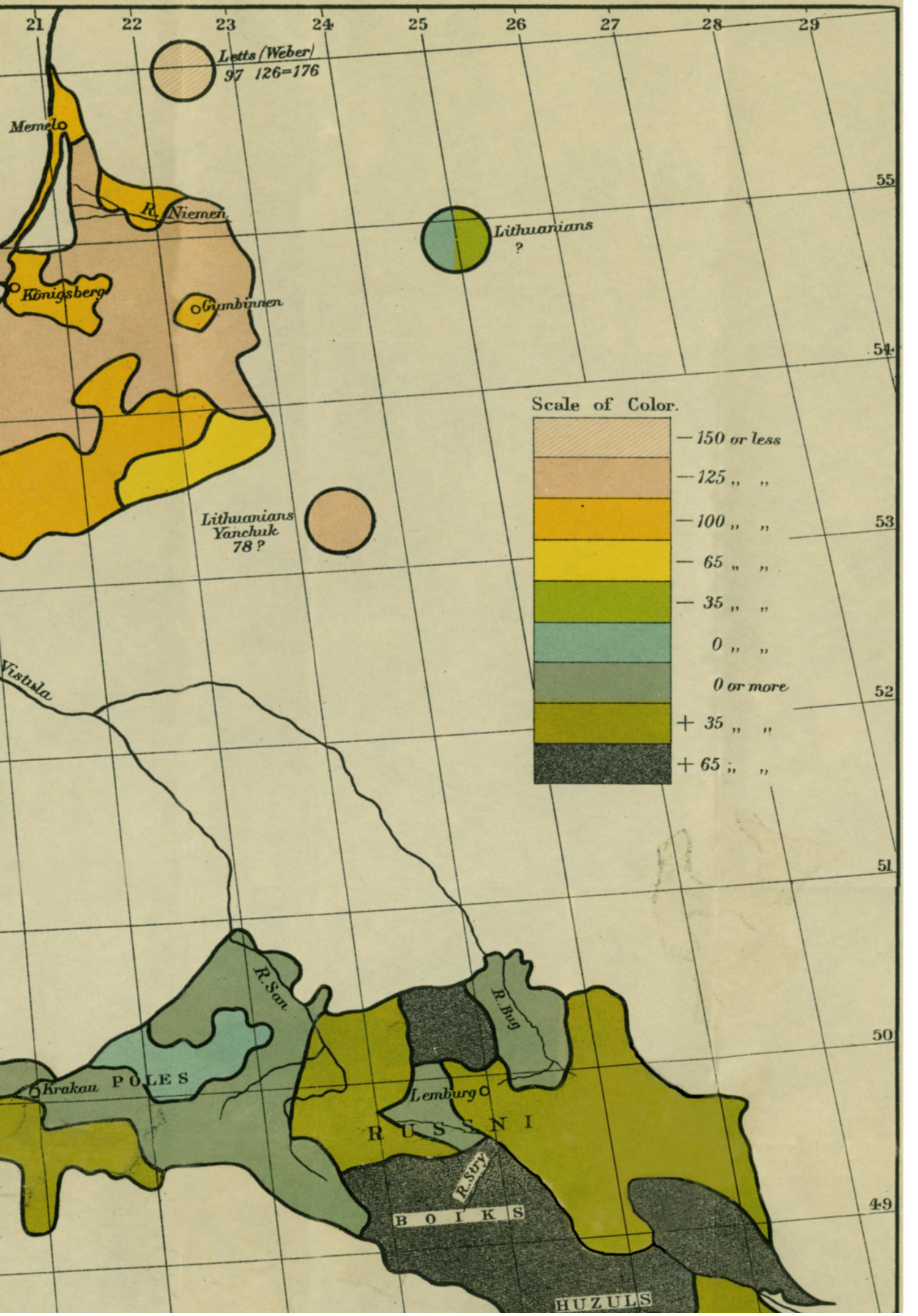
This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions



This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions



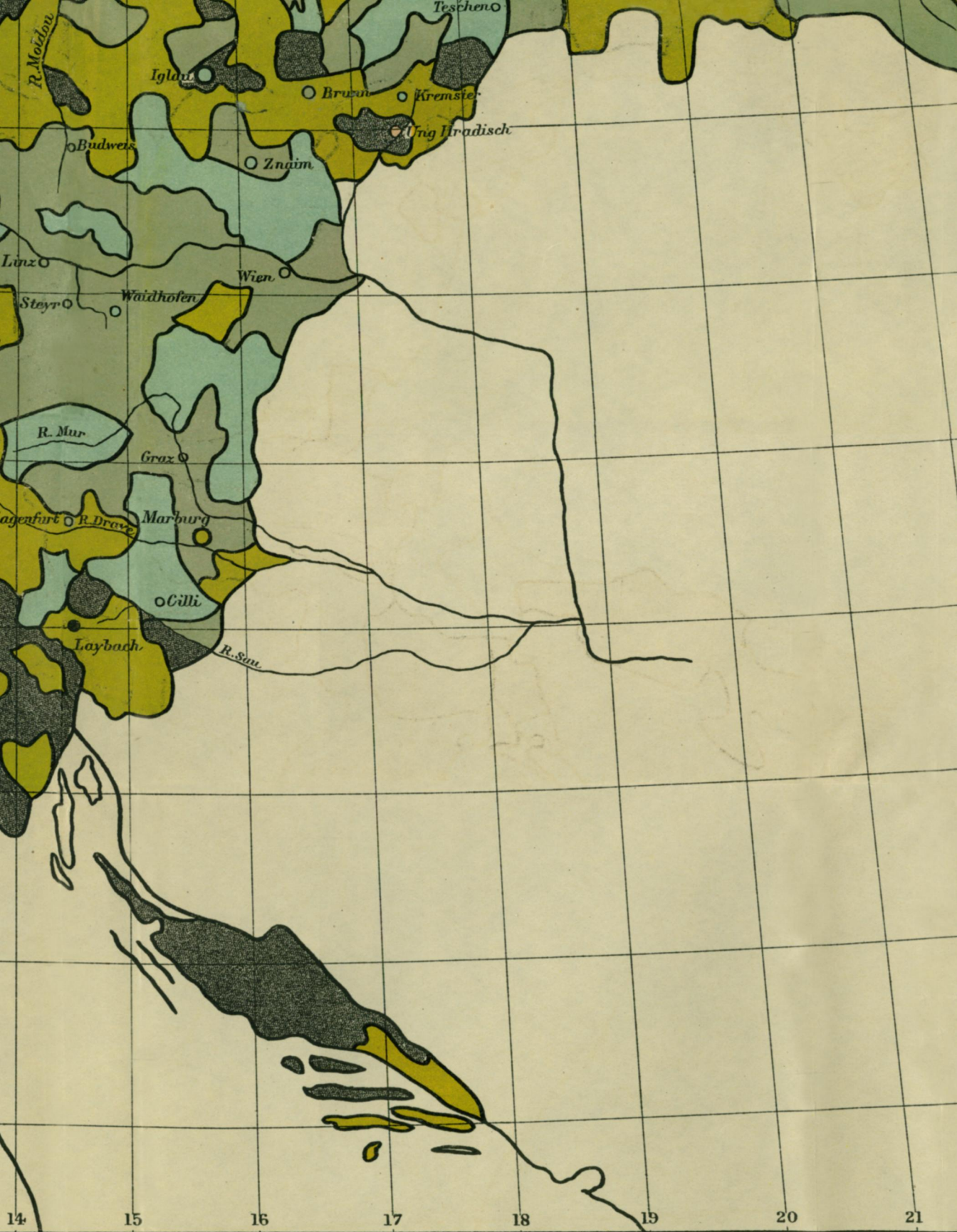
This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

COLOUR CHART OF CENTRAL EUROPE.

COLOUR AND RACE.

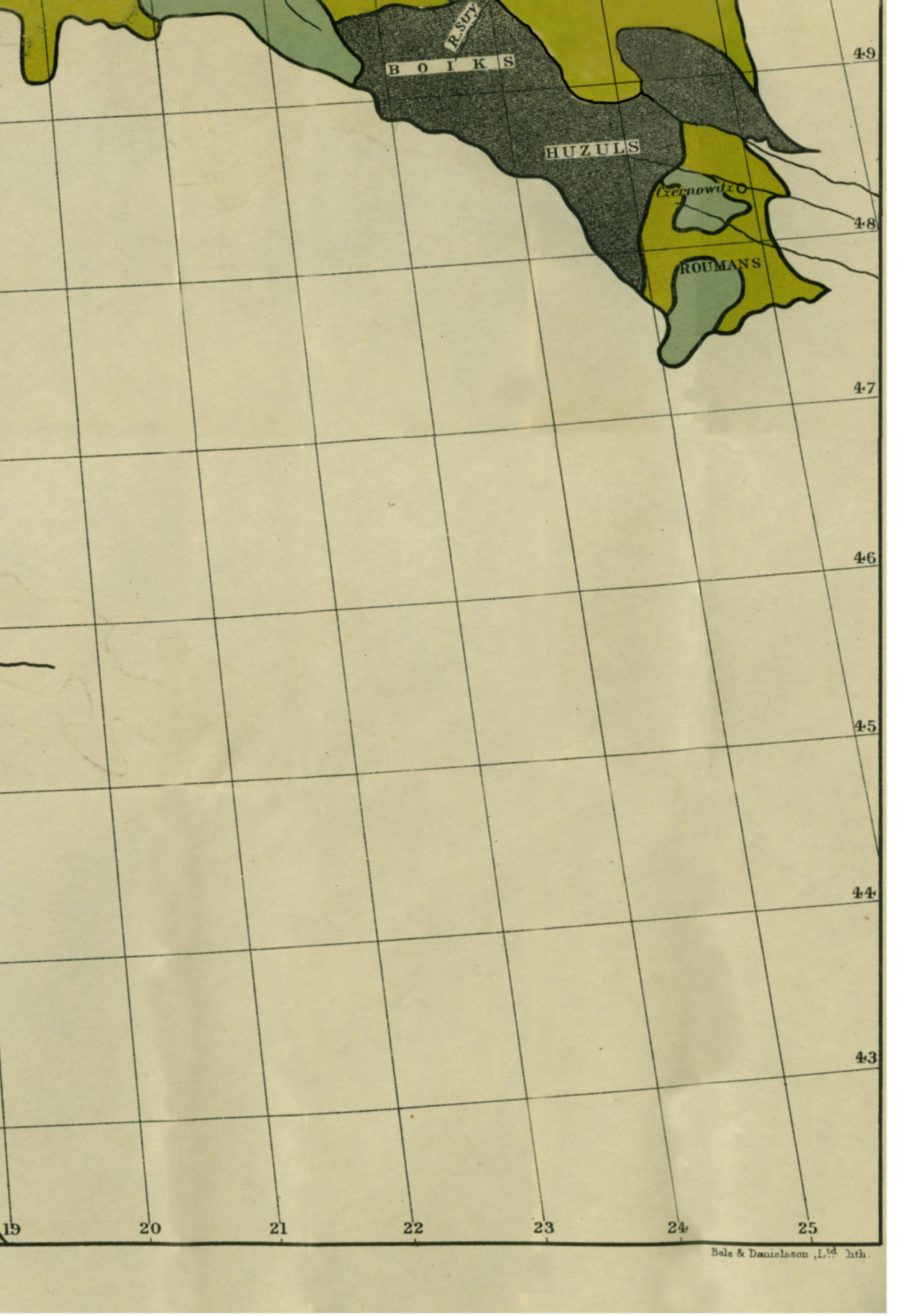
This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions



OLOUR CHART OF CENTRAL EUROPE.

COLOUR AND RACE.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions



This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

References to the Numbers on the Map.

SCOTLAND.

1 Lerwick, Scalloway. 285. −48·1
2 Kirkwall. 400. −30·7
3 Stromness, Hoy, &c. 168. −43·1
4 Wick. 300. −17·4
5 Strath Naver, Christison. 35. + 24·5
6 Stornoway. 125. −20·8
7, 8 Luirbost (McLeay). 283. −50
9 Ullapool. 50. −26
10 Portree. 70. + 14·4
11 Strath, &c. 145. −25·7
12 Kintail, Lochalsh. 120. + 11·8
13 Glenelg. 19. −11
14 Dingwall & Garve. 50. −14
15 Beauly, &c. 170. −23
16 Glenmoriston. 70. −56
17 Fort Augustus. 63. + 3
18 Inverness Town. 250. + 24·8
19 Nairn. 80. −42·5
20 Brodie (Flower Show). 125. + 9·6
21 Moray, low country. 210. −30·5
22 Cullen. 104. −38·4
23 Cullen Fishers. 149. −70
24 Keith & Huntly. 200. + 14·5
25 Buchan Adults (Gray). 2860. + 23·5
26 Buchan Children (Gray). 14500. −47
27 Badenoch. 50. + 24
28 Braemar. 170. −39·4
29 Strathdon & Strathdee (lower parts). 360. −39·6
30 Aberdeen. 700. −13·3
31 Banavie. 67. −69
32 Fort William. 406. + 24·4
33 Glennevis. 33. + 6·6
34 Athol. 240. −8
35 Laurencekirk. 200. −7·5
36 Stonehaven. 87 + 27·9
37 Ardgour. 70. −1·5
38 Oonich. 100. + 55
39 Glencoe (and South Ballachulish). 164. + 28·6
40 Ballachulish. 220. + 37·2
41 Breadalbane. 200. + 22
42 Dunkeld. 50. + 26
43 Brechin. 100. −7
44 Montrose. 60. + 36·6
45 Arbroath. 167. −32
46 Arbirlot. 100. −3
47 Seal, Luing. 68. −16·8
48 Lorn. 90. + 65·4
49 Inveraray. 100. −7
50 Dalmally, &c. 100. + 18
51 Glen Orchy. 60. + 3·6
52 Loch Katrine. 30. −44
53 St. Fillans, &c. 100. + 12
54 Comrie (Sports). 100. + 13
55 Perth. 665. + 1·3
56 Broughty. 98. −25·4
57 Easthaven Fishers. 26. −84
58 Colonsay. 28. −37
59 Strachur. 21. + 95
60 Arroquhar. 112. + 31·2
61 Callander & Doune. 150. + 15·4
62 Stirling. 600. −26
63 Auchterarder & Dunning. 180. +8·2
64 Forteviot Show. 300. + 8·7
65 Dunfermline. 52. −13
66 Dysart, &c. 300. −29·6
67 Buckhaven. 67. −30
68 Fife, Eastern. 230. −20·1
69 Kirkcaldy. 300. −33·5
70 Ilay, Hector Maclean. 88. + 20·4
71 Glasgow. 180. + 2·7
72A Edinburgh. 2000. + 6·4
72B Edinburgh, Canongate. 650. + 30·6
73 Newhaven Fishers. 176. −39·8
74 Leith, Musselbro', Dalkeith. 288.

ENGLAND (*continued*).

30 Bridlington Quay. 100. −12
31 Skipton. 233. −4·5
32 Keighley Farmers. 50. −38
33 Keighley Town. 350. −38
34 Haworth. 155. −16·8
35 Bradford. 1400. −7·7
36 Leeds. 440. −8·5
37 York. 225. −4·1
38 Beverley Market. 166. −16·3
39 Hull. 200. + 12·4
40 Preston. 100. + 26
41 Halifax.? (Excursionists). 150. + 6·5
42 Farnley & Gildersom, 150. −17·4
43 Liverpool. 100. + 37
44 Manchester. 475. + 20
45 Barnsley Fair. 500. + 0·6
46 Gainsborough Farmers. 150. −28
47 Gainsborough Town. 150. + 38·6
48 Market Rasen. 100. + 3
49 High Peak. 40. −30
50 Youlgrave. 61. −65·5
51, 52 Newark. 300. −15
53 Lincoln. 500. −8·8
54 Biddulph & Moorlands. 50. + 36
54A Hanley. 194. + 53·8
55 Leek. 120. + 24·7
56 Derby. 100. −45
57 Nottingham, Farmers. 100. −22
58 Nottingham Town. 700. + 6·2
59 Barrowby, &c. 300. −11·5
60 Grantham. 300. −4·6
61 Boston, Country. 130. −78·5
62 Boston Town. 340. −17·5
63 Shrewsbury. 282. + 45
64 Shrewsbury, Rural. 62. + 74
65 Stafford. 70. + 33
65A Stoke. 200. + 19
65B Stoke, Country Folk. 143. + 27·5
66 Burton. 360. + 5·8
67 Leicester, Rural. 30. + 14
68 Leicester. 540. + 24
69 Rutland. 70. −1·5
70 Stamford, Country. 200. −20·7
71 Stamford. 200. + 21·6
72 Wolverhampton. 300. −1·2
73 Tamworth Market. 200. −23
74, 75 Peterborough. 113. + 15
76 Ely. 108. −5·6
77 Norwich. 290. −4·8
78 Yarmouth (Regatta). 450. + 40·6
79 Yarmouth, Fishers & Seamen. 100. −20.
80 Ludlow. 100. + 35
81 Cleobury. 100. + 37
82 Kidderminster. 373. + 9·8
83 Stourport. 100. −18
84 Birmingham. 667. + 13·2
85 Rugby. 53. + 75·4
86 Northampton. 300. + 28·2
87 Cambridge. 200. + 28
88 Bury St. Edmunds. 226. o. Country. 124. −39·6
89 Ipswich, Market. 150. −10·8
90 Ipswich, Town. 250. + 13·6
91 N. E. Hereford. 50. + 98
92 Bewdley. 500. + 39·2
93 Worcester City. 1000. + 15·4
94 Worcestershire, Central. 700. +1·9
95 Stratford-on-Avon, Fair. 300. +30·4
96 S. W. Northants, Heyford, &c. 180. + 34·5
97 Barley, &c. (Haddon). 39. + 0·1
98 N. W. Worcestershire. 500. + 33
99 Hereford. 275. + 41·3
99A Hereford, Rural. 218. + 46·4
100 Forest of Dean. 52. + 84·4
101 Monmouth. 70. + 75·7
102 Newport. 133. + 80

ENGLAND (*continued*).

169 Ringwood Market. 100. − 18
170 Christchurch. 75. − 10·7
171 Southampton. 400. − 23
172 Fareham. 175. − 18·3
173 Chichester, Farmers. 167. − 31
174 Chichester. 93. − 8·5
175 Penzance. 250. + 111·2
176 Newlyn, &c. 144. + 62·5
177 Redruth. 400. + 110·7
178 Falmouth. 350. + 81·6
179 Truro, Country. 223. + 97
180 Truro, City. 500. + 61
181 Padstow. 158. + 46·2
182 St. Austell, Flower Show. 850. + 75·5
183 Bodmin. 60. + 58·4
184 Fowey. 56. + 35·6
185 St. German's, &c. 87. + 65
186 Torpoint. 120. + 59
187 Plymouth Fishers. 95. − 43
188 Plymouth. 830. + 40·5
189 Tavistock, &c. 100. + 73
190 Launceston Market. 160. + 36·3
191 Okehampton. 80. + 46·3
192 Holsworthy Fair. 100. + 62
193 Bideford. 175. + 29·6
194 Exeter. 950. + 52·6
195 Bovey. 30. + 53·4
196 Ashburton Holne. 55. + 96·4
197 Totnes, &c. 360. + 52·8
198 Brixham. 200. + 52
199 Dartmouth. 200. + 74

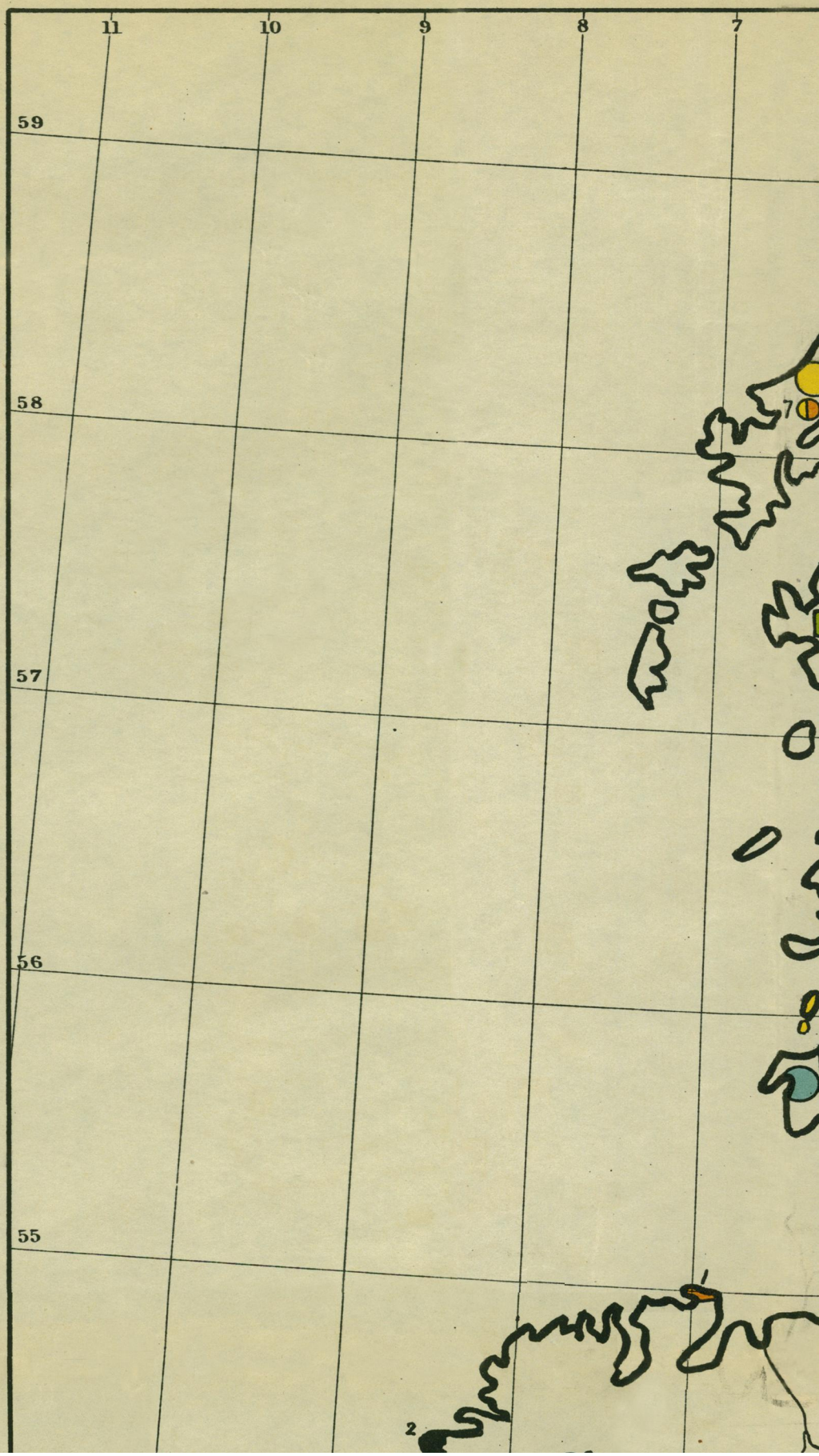
WALES.

1 Holyhead. 41. + 97·6
2 Carnarvon. 278. + 97·7
3 Bangor. 121. + 91·7
4 Beddgelert. 68. + 107·4
5 Llanwrst. 100. + 68
6 Bettws. 36. + 83·2
7 Ruthin (Eisteddfod). 150. + 76·6
8 Dolgelly. 40. + 97·4
9 Dinas Mawddwy. 50. + 128
10, 11, 12 Newtown, Montgomery, Pool. 50. + 56
13 Aberystwith. 146. − 76·6
14 Tregaron, &c. 35. + 85·6
15 Rhaidr-gwy. 62. + 74
16 Radnor, &c. 80. + 63·7
17 Kington, &c. 70. + 78·4
18 Pembroke and Castlemartin. 90. + 50
19 Caermarthen (Eisteddfod). 700. + 124·6
20 Welsh Congregation (at Bristol). 100. + 109
21 Brecon. 100. + 77
22 Crickhowel. 80. + 67·2
23 Abergavenny, Market. 200. + 45·5
24 Abergavenny. 100. + 74
25 Merthyr, Pant, &c. 160. + 66
26 Coast. 97. + 46·3
27 Llandaff. 33. + 135

IRELAND.

1 Malin Head, O'Doherties. (Browne.) 226. −54
2 Malinmore & Glencolmkill. (Browne.) 196. + 186
3 Inishkea. (Browne.) + 1·4) 650

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions



Map.

GLAND (*continued*).

ood Market. 100. − 18
church. 75. − 10·7
mpton. 400. − 23
m. 175. − 18·3
ester, Farmers. 167. − 31
ester. 93. − 8·5
ce. 250. + 111·2
n, &c. 144. + 62·5
th. 400. + 110·7
uth. 350. + 81·6
Country. 223. + 97
City. 500. + 61
w. 158. + 46·2
ustell, Flower Show. 850.
5·5
n. 60. + 58·4
. 56. + 35·6
rman's, &c. 87. + 65
int. 120. + 59
uth Fishers. 95. − 43
uth. 830. + 40·5
ock, &c. 100. + 73
eston Market. 160. + 36·3
mpton. 80. + 46·3
orthy Fair. 100. + 62
rd. 175. + 29·6
. 950. + 52·6
. 30. + 53·4
rton Holne. 55. + 96·4
s, &c. 360. + 52·8
m. 200. + 52
outh. 200. + 74

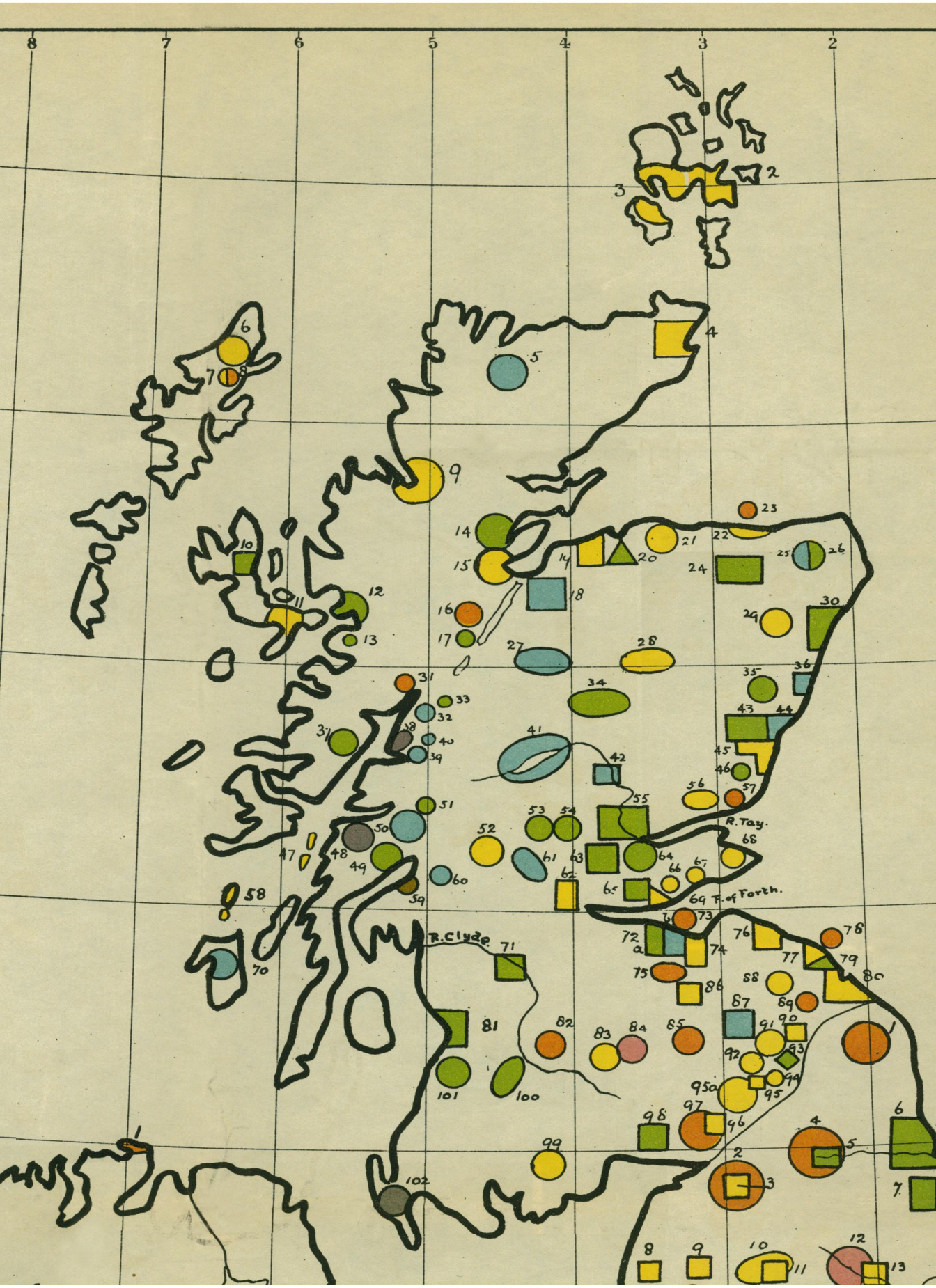
WALES.

ead. 41. + 97·6
rvon. 278. + 97·7
r. 121. + 91·7
elert. 68. + 107·4
rst. 100. + 68
s. 36. + 83·2
n (Eisteddfod). 150. + 76·6
lly. 40. + 97·4
Mawddwy. 50. + 128
wn
gomery } 50. + 56
stwith. 146. − 76·6
ron, &c. 35. + 85·6
r-gwy. 62. + 74
or, &c. 80. + 63·7
on, &c. 70. + 78·4
roke and Castlemartin. 90.
50
arthen (Eisteddfod). 700.
24·6
Congregation (at Bristol).
+ 109
n. 100. + 77
owel. 80. + 67·2
avenny, Market. 200.
5·5
avenny. 100. + 74
yr, Pant, &c. 160. + 66
97. + 46·3
aff. 33. + 135

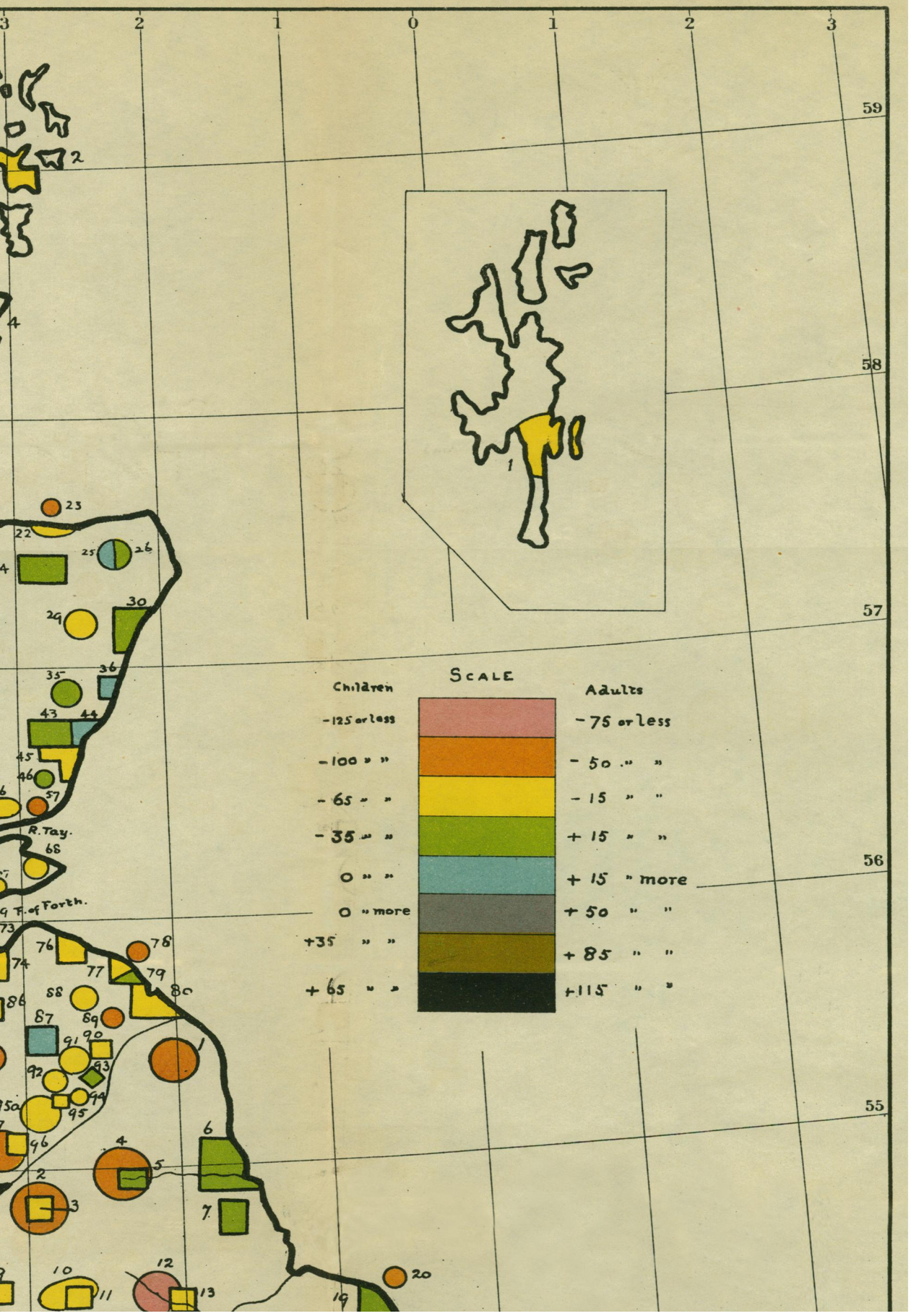
IRELAND.

Head, O'Doherties. (Browne.)
− 54
ore & Glencolmkill. (Browne.)
+ 186
a. (Browne.) + 1·4) 650

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions



This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions



This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

66 Dysart, &c. 300. −29·6
67 Buckhaven. 67. −30
68 Fife, Eastern. 230. −20·1
69 Kirkcaldy. 300. −33·5
70 Ilay, Hector Maclean. 88. + 20·4
71 Glasgow. 180. + 2·7
72A Edinburgh. 2000. + 6·4
72B Edinburgh, Canongate. 650. + 30·6
73 Newhaven Fishers. 176. −39·8
74 Leith, Musselbro', Dalkeith. 288. −20·6
75 Midlothian, Farmers and rural. 360. −62
76 Dunbar. 150. −45·8
77 Eyemouth Males. 100. −44
78 Eyemouth Fishers. 125. −66·4
79 Eyemouth Females. 100. 0
80 Berwick. 500. −37
81 Ayr. 500. −4·8
82 Leadhills & Wanlockhead. 50. −64
83 Moffat. 50. −28
84 Moffatdale. 40. −92
85 Vale of Yarrow. 60. −70
86 Peebles. 80. −25
87 Galashiels. 60. + 19·7
88 The Merse. 230. −48·2
89 Berwick, Farmers, &c. 100. −52.
90 Kelso. 50. −30
91 Melrose. 142. −20·4
92 Selkirk. 300. −48
93 Jedburgh. 150. −11·3
94 Teviotdale. 272. −36·9
95 Hawick. 180. −22·2
95A Hawick Farmers. 100. −23
96 Langholm. 200. −33·6
97 Eskdale & Lower Annandale. 156. −60·6
98 Dumfries. 200. −4
99 Castle Douglas. 50. −50 (should be coloured orange)
100 Sanquhar, &c. 200. −13·5
101 Maybole, &c. 250. −11·6
102 Stranraer. 150. + 55

ENGLAND.

1 Glendale, Wooler, &c. 87. −81·5
2 Carlisle Farmers & rural. 500. −60
3 Carlisle Town. 342. −17·4
4 Hexham Farmers. 125. −60·8
5 Hexham Town. 140. −2·6
6 Newcastle. 264. −9·5
7 Durham. 250. −13·12
8 Cockermouth. 184. −46·2
9 Keswick. 134. −29·7
10 Threlkeld, Langwathby, &c. 157. −31
11 Penrith. 130 −22·4
12 High Teesdale. 72. −94·2
13 Barnard Castle. 138. −22·5
14 Lorton, &c. 63. −64·4
15 Borrowdale. 50. −17·4
16 Kendal, Country. 150. −35·3
17 Kendal, Town. 150. −22
18 Ingleton & Kirby Lonsdale. 130. −45·3
19 Whitby. 212. −8·9
20 Whitby, Fishers. 33. −56·2
21 Isle of Man. 225. +3·37
22 Craigneish. 40. +32·5
23 Lancaster Town & Country. 400. −29·6
24 Upper Ribblesdale, Malham, &c. 185. −3·4
25 Ripon. 120. −17·3
26 Thirsk Market. 260. −13
27 Malton. 50. + 12
28 Flamborough (Pitt-Rivers). 73. + 99
29 Bridlington. 100. −45
95 Stratford-on-Avon, Fair. 300. +30·4
96 S. W. Northants, Heyford, &c. 180. + 34·5
97 Barley, &c. (Haddon). 39. + 0·1
98 N. W. Worcestershire. 500. + 33
99 Hereford. 275. + 41·3
99A Hereford, Rural. 218. + 46·4
100 Forest of Dean. 52. + 84·4
101 Monmouth. 70. + 75·7
102 Newport. 133. + 80
103 Gloucester, Market. 66. + 40·8
104 Gloucester City. 500. + 38
105 Tewkesbury. 100. + 18
106 Moreton-in-the-Marsh. 108. −26·6
107 Oxford. 720. −1·9
108 Oxfordshire. 96. −24
109 Aylesbury. 100. −18
110 Dunstable. 240. + 33·3
111 Braintree, Country. 40. −3·1
112 Braintree, Town. 83. + 63·7
112A Brentwood. 70. + 68·8
113 Colchester, Farmers. 210. −6·2
114 Colchester, Town. 113. + 35·2
115 Dursley. 100. + 20
116 Stroud. 100. −13
117 Cirencester Market, Cricklade. 400. + 5·7
118 Reading, Country Districts. 60. −30
119 Reading. 200. −4
120 London, Lower Classes. 6,000. + 39·2
121 London, Upper Classes. 820. + 7·2. Slums. 250. + 57·4
122 Greenhithe. 100. −24
123 Bristol, Upper Classes. 600. + 15
124 Bristol. 6,400. + 31
125 Bristol Slums. 827. + 45
126 Bath. 236. +25·9
127 Bath, Upper Class. 60. −23·4
128 Malmesbury. 170. + 20·2
129 Chippenham. 750. − 10
130 Laycock. 175. − 18·3
130A Corsham. 110. + 12·2
131 Calne. 70. + 16
132 Swindon, Farmers. 160. −48
133 Swindon, New Town. 182. + 20·2
134 Swindon Fair. 360. + 1·4
135 Bradford-on-Avon. 600. + 34
136 Trowbridge, 650. + 18·4
137 Trowbridge, Farmers. 83. + 1
138 Devizes, Farmers. 76. − 5
139 Devizes. 197. + 91
140 Pewsey Feast. 228. + 13·1
141 Marlborough, Town. 125. + 5·6
142 Marlborough, Rural. 100. − 25
143 Hungerford Fair. 120. − 13·3
144 Farnborough. 25. − 48
145 Horsham Market. 212. + 2·9
146 Battle. 33. + 9·1
147 Ashford Market. 220. + 16
148 Canterbury. 175. − 1·2
149 Dover. 325. − 5·4
150 Dover Boatmen. 60. − 53·6
151 Cheddar and Axbridge. 55. + 5·3
152 Glastonbury. 50. + 58·5
153 Wells. 135. + 46·7
154 N.E. Somerset. 200. + 41
155 Warminster. 109. − 101
156 Heytesbury, Tilshead. 72. − 8·3
157 Mere, Tisbury Hindon. 57. + 8·7
158 Wilton. 92. − 12·2
159 Salisbury, Market. 340. + 2·5
160 Weyhill Fair. 291. 6·4
161 West Somerset. 90. 43·3
162 Wellington. 180. + 42·7
163 Taunton. 300. + 51
164 Ilminster. 35. + 74·3
165 Yeovil. 140. + 42
166 Gillingham, &c. 52. + 60
167 Dorchester. 100. + 30
168 Wareham. 50. + 38

IRELAND.

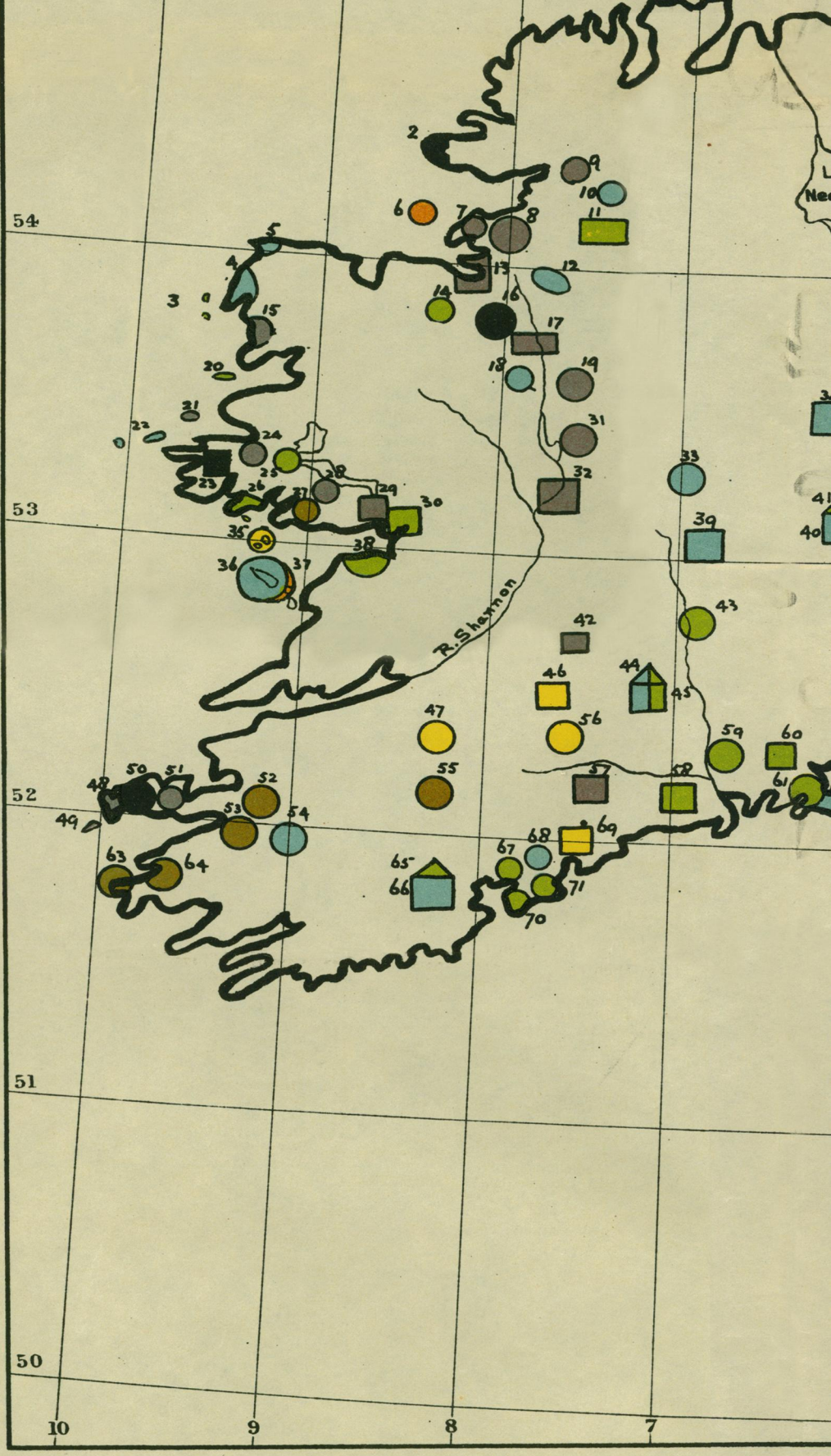
1 Malin Head, O'Doherties. (Browne.) 226. −54
2 Malinmore & Glencolmkill. (Browne.) 196. + 186
3 Inishkea. (Browne.) + 1·4 } 650
4 Mullet. (Browne.) + 43·8 } in the
5 Portnacloy. (Browne.) + 37·8 } three
6 Innismurry. 19. −52·7
7 Milkhaven, &c. 52. + 68
8 Manor Hamilton. 105. + 79·5
9 Pettigo. 53. + 83
10 Fermanagh. 166. + 28·8
11 Enniskillen. 267. + 7·5
12 Cavan, Hill country. 70. + 19
13 Sligo. 295. + 68
14 Colooney & Ballysadare. 72. −7
15 Ballycroy. (Browne.) 338. + 58
16 Moytura. 103. + 128·2
17 Boyle. 125. + 75·2; Carrick-on-Shannon. 85. + 74·1
18 Strokestown. 79. + 77·4
19 Longford. 67. + 58·2
20 Clare Island. (Browne.) } 252. + 2
21 Inishturk. (Browne.) }
22 Inishbofin, Inishshark. (Browne.) 250. + 31
23 Clifden. 111. + 138·7
24 East Connemara. 100. + 82
25 Cong, Joycecoy. 75. + 7·2
26 Carna & Mweenish. (Browne.) 500. −5
27 Iar Connaught. 95. + 93
28 Oughterard. 93. + 68
29 Galway. 300. + 62
30 Claddagh. 170. + 11·2
31 Ballymahon, &c. 64. + 84
32 Athlone. 125. + 72·8
33 Leinster (Generally)
34 Drogheda. 169. + 30·6
35 Garumna, &c. (Browne.) 614. − 25·5
36 Aranmore. 90. + 35·4
37 Inishmaan. (Haddon). 37. −65
38 Ballyvachan. (Browne.) 114. + 13·3
39 Kildare. 68. + 16
40 Dublin. 1,300. + 29·5
41 Dublin (Upper Classes). 450. −16·2
42 Thurles. 31. + 68
43 Athy & Carlow. 35. −9
44 Kilkenny. 20. + 15
45 Kilkenny. 220. + 15
46 Cashel. 142. −14·4
47 Charleville. 32. −41
48 Dunquin } (Browne.) 170. + 87·3
49 Blasket Island }
50 Ventry. 100. + 120
51 Dingle. 133. + 81·8
52 Castlemaine. 150. + 114·7
53 Killorglin, Milltown. 234. + 104·7
54 Killarney. 75. + 30·6
55 Mallow. 93. + 119·3
56 Cahir. 92. −41·5
57 Cappoquin. 55. + 81·4
58 Waterford. 100. −24 (should be coloured yellow)
59 New Ross. 228. −11·6
60 Wexford. 471. −9·2
61 Forth & Bargy. 80. + 6
62 Forth. (Browne.) 319. + 19·3
63 Valentia. 36. + 105·7
64 Cahirciveen. 258. + 113·8
65 Cork (Upper Classes), 250. + 8·4
66 Cork. 1800. + 16·1
67 Cloyne. 300. + 5·6
68 Kilteskin, Holy Well. 191. + 37
69 Youghal. 120. −29·4
70 Ahadda, &c. 73. + 14·7
71 Geileen Fishers. 33. −8·8

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions

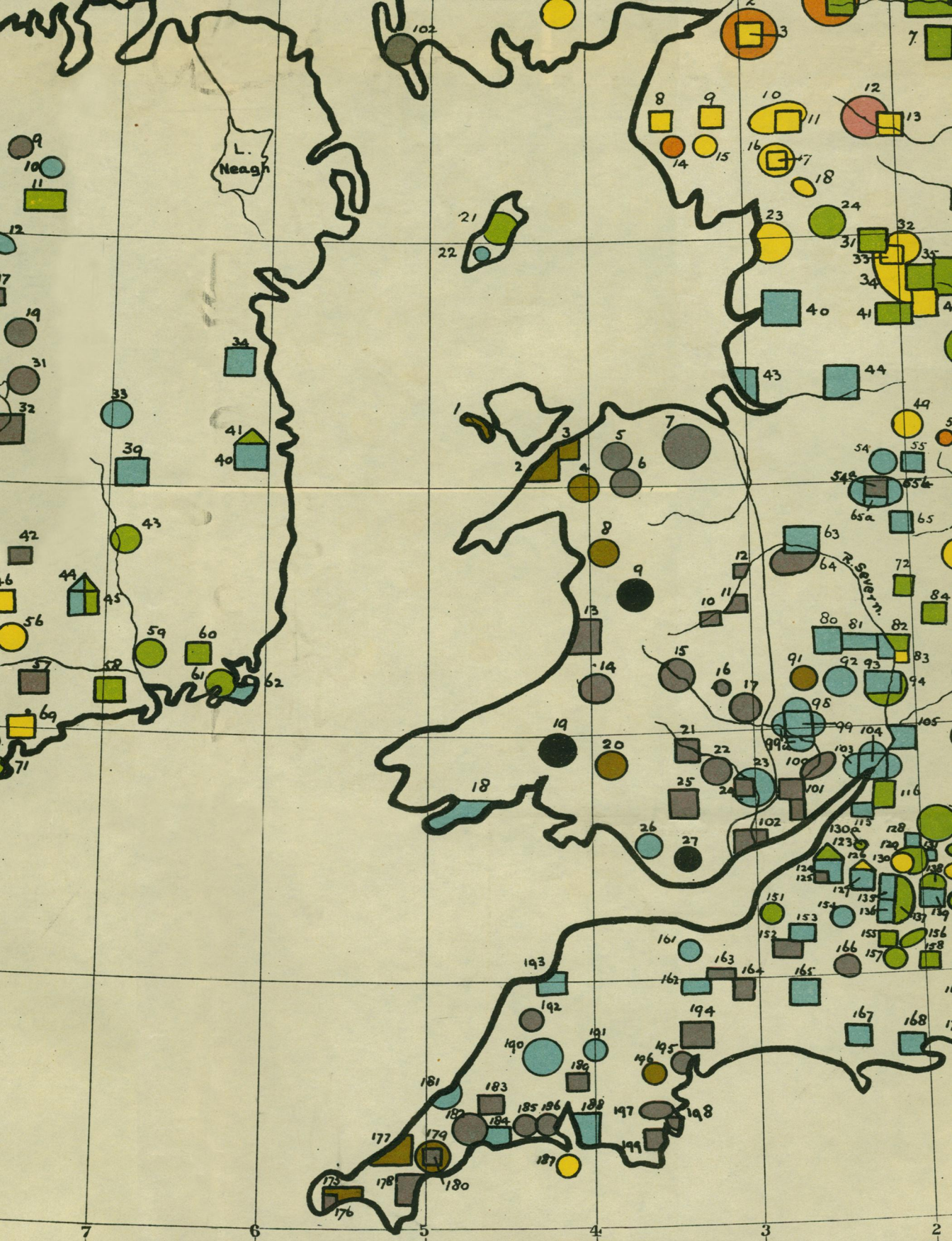
IRELAND.

Head, O'Doherties. (Browne.)
−54
ore & Glencolmkill. (Browne.)
+ 186
a. (Browne.) + 1·4 } 650
(Browne.) + 43·8 } in the
loy. (Browne.) + 37·8 } three
rry. 19. −52·7
ven, &c. 52. + 68
Hamilton. 105. + 79·5
53. + 83
agh. 166. + 28·8
llen. 267. + 7·5
Hill country. 70. + 19
295. + 68
ey & Ballysadare. 72. −7
by. (Browne.) 338. + 58
a. 103. + 128·2
125. + 75·2; Carrick-on-
nnon. 85. + 74·1
town. 79. + 77·4
rd. 67. + 58·2
sland. (Browne.) } 252. + 2
rk. (Browne.) }
bfin, Inishshark. (Browne.) 250.
31
. 111. + 138·7
onnemara. 100. + 82
Joycecoy. 75. + 7·2
& Mweenish. (Browne.) 500.

nnaught. 95. + 93
erard. 93. + 68
y. 300. + 62
gh. 170. + 11·2
ahon, &c. 64. + 84
e. 125. + 72·8
er (Generally)
eda. 169. + 30·6
na, &c. (Browne.) 614. − 25·5
ore. 90. + 35·4
aan. (Haddon). 37. −65
achan. (Browne.) 114. + 13·3
e. 68. + 16
. 1,300. + 29·5
(Upper Classes). 450. −16·2
s. 31. + 68
Carlow. 35. −9
ny. 20. + 15
ny. 220. + 15
. 142. −14·4
ville. 32. −41
in } (Browne.) 170. + 87·3
t Island }
. 100. + 120
. 133. + 81·8
naine. 150. + 114·7
glin, Milltown. 234. + 104·7
ey. 75. + 30·6
y. 93. + 119·3
92. −41·5
quin. 55. + 81·4
ord. 100. −24 (should be
oured yellow)
oss. 228. −11·6
rd. 471. −9·2
& Bargy. 80. + 6
(Browne.) 319. + 19·3
ia. 36. + 105·7
iveen. 258. + 113·8
(Upper Classes), 250. + 8·4
1800. + 16·1
. 300. + 5·6
kin, Holy Well. 191. + 37
al. 120. −29·4
a, &c. 73. + 14·7
n Fishers. 33. −8·8



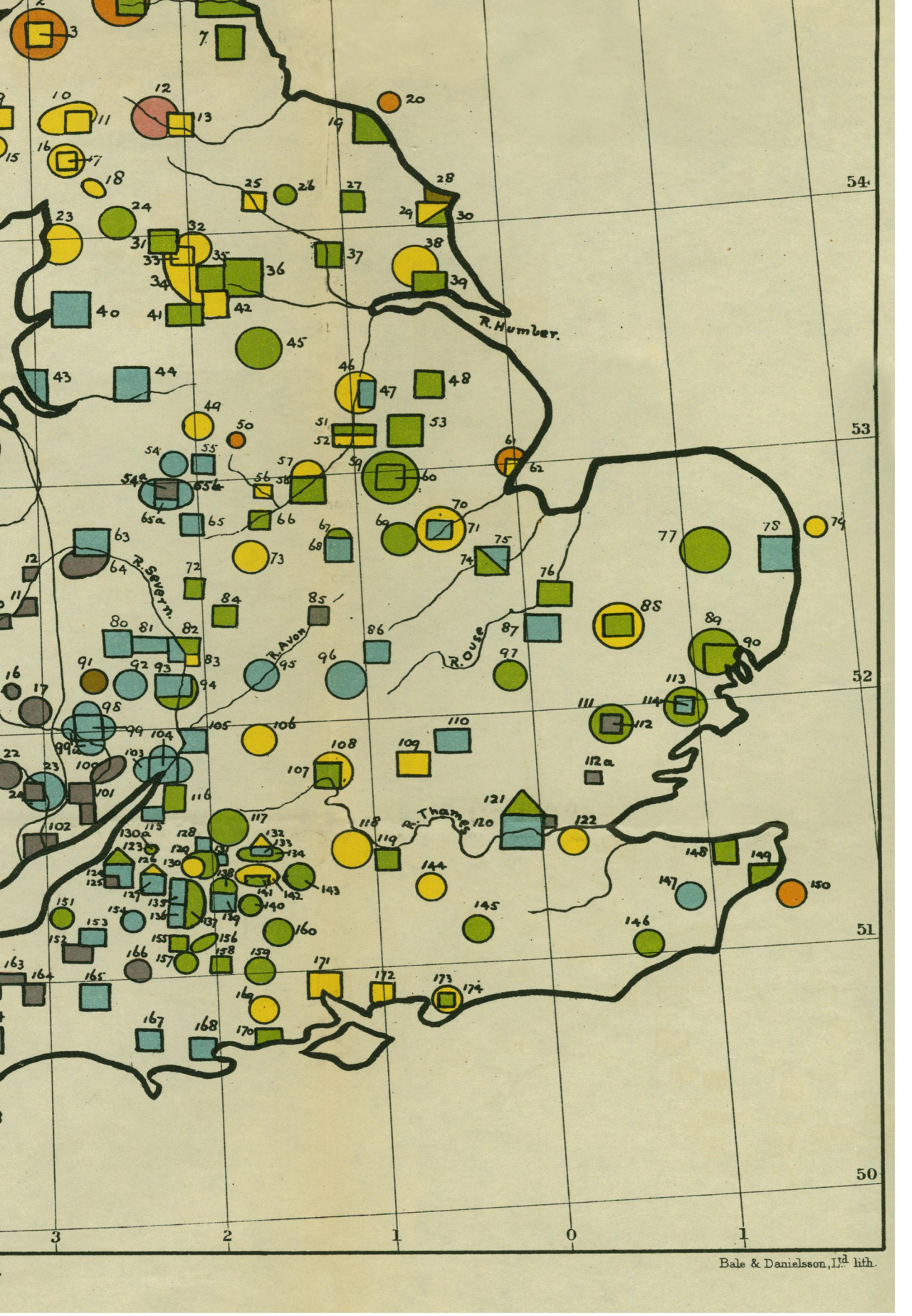
This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions



COLOUR CHART OF THE BRITISH ISLES.

COLOUR AND RACE.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions



Bale & Danielsson, Ltd lith.

This content downloaded from 185.44.78.156 on Sat, 14 Jun 2014 03:00:32 AM
All use subject to JSTOR Terms and Conditions