**On the character of the voice in the various nations of Asia and Africa, contrasted with those of Europe / by Sir George Duncan Gibb.**

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# CHARACTER OF THE VOICE

IN THE VARIOUS NATIONS OF

## ASIA AND AFRICA,

CONTRASTED WITH THOSE OF EUROPE.

BY

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# THE CHARACTER OF THE VOICE, ETC.

A CONTRAST of the character of the voice in the various nations of the world has never been attempted; and no traveller or resident in any particular country, whether at home or abroad, has devoted himself to the consideration of such a subject. Travellers, now and then, in their description of certain nations and tribes, speak of their loud, their shrill, their powerful, or their weak voices. Beyond the mere mention of the sound of the voice as they find it, no special desire has been evinced to dwell upon it at large. Any attempt, therefore, on my part, to describe the character of the voice in the peoples inhabiting the vast continents of Asia and Africa, and to contrast it with that of the nations of Europe might, indeed, seem to be utopian, with apparently no facts to fall back upon, or to bring forward, in support of any views that might be propounded. Nevertheless, the task, difficult though it seems to be, I have endeavoured to work out with all the energy and effort that could be devoted to its study and elucidation, to be further aided, it is to be hoped, by such remarks as those may make upon it who desire to take part in the discussion of the subject.

I may state, however, that I think I possess *some* facts, although not numerous nor abundant, that will lend their aid in the consideration of this question. These, with such information, meagre as it is, which I have endeavoured to cull from travellers, who have referred to the voices of the nations of Asia and Africa, shall be made to bear their just weight in the course of my remarks. After generalising and reasoning upon these, they shall be contrasted with the voice of Europeans, such as we commonly know it.

The general subject of the paper is of more interest than at first sight might appear, and unquestionably has something to

do with the superiority of the European over the Asiatic and African races. For convenience, the nations of Asia may be comprised under three great divisions:—

1. The natives of China and Japan.
2. The inhabitants of Tartary, Thibet, and Mongolia.
3. The natives of India and Birmah.

This division, although arbitrary, takes in the chief races of Asia, and is sufficient for the purpose of the general illustration of the voice in the natives of that continent. There are, probably, inhabitants of some of the smaller kingdoms on the southern seaboard and peninsula, such as Laos, Siam, and Anam, taking in Cochin-China and Cambodia, and even elsewhere, where the character of the voice might possibly vary considerably from that of the other nations; but on the whole I do not think that will materially interfere with the general conclusion. Siberia is necessarily excluded.

The Chinese and the Koreans, and the Japanese, according to Dr. Prichard (p. 230), belong to the same type of the human species as the natives of High Asia; but it seems, he says, among them, to have become softened and mitigated, and to display frequent deviation from that character which travellers assert is almost uniform among the Mongols.

Although I have not been either in China or Japan, my intercourse with natives of those countries abroad, together with the information I have derived from persons who have had communication with them in their native land, leads me to say that the voice, in both races, is one of a low power and feeble compass. In tone, it seldom reaches very high; and if I might compare it to any one thing more than another, I should say it was a *whining* voice. This, I feel persuaded, will strike those who have had much personal communication with the Chinese and Japanese. Their soft and quiet manner of speaking, which at times possesses a sort of metallic twang, not unlike that of their Mongol progenitors, may be due to the peculiar guttural character of their language, in which vowel sounds appear so largely to predominate. Or, again, it may depend upon a shallow formation of the larynx, approaching to that in the female sex, wherein its depth, or profundity—starting

from the point of the pomum Adami, backwards to the thick portion of the ring of the cricoid cartilage—is less than is met with in the Tartar tribes or in Europeans. Or, thirdly, it may depend upon habitual pendency of the epiglottis or cartilage, that forms the protector of the larynx in the act of swallowing. Upon a very careful consideration of the subject, together with personal observation, it seems to me that in both the Chinese and Japanese, but especially in the former, all three causes exert a more or less modifying effect, but that producing the greatest influence is the last,—pendency of the epiglottis.

No doubt, many of the Chinese and Japanese will be found to possess as good and powerful voices as are to be heard anywhere; yet very few will be devoid of the metallic twang, which gives to it a muffled character. Yet, as the vocal cords are necessarily short, intensity and loudness of sound will be replaced by quality, in which the tenor variety may predominate. Although I have examined fewer of the Japanese than their co-religionists (in part at any rate) and neighbours, the Chinese, I think the voice is clearer and stronger in them, and the epiglottis will not be found so generally pendent. Although, likewise, both nations are an industrious race, neither possesses the extreme activity or energy of their progenitors, the Tartars and Mongols, now to be considered. This is not a consequence, but an accompaniment of their peculiar voice, which is a manifestation of physical weakness pervading nearly the entire race. Nevertheless, strongly made Chinamen, with sounding voices and quick movements, are mentioned by Huc (vol. ii, p. 242).

Central Asia, comprising the great kingdoms of Tartary, Thibet, and Mongolia,—far away from the intercourse of civilised nations, and therefore not in common communication with them, like the Chinese and Japanese,—would prove a sealed book to the scientific investigator, were it not for the glimpses of information furnished by travellers, like Messrs. Huc and Gabet. The character of the voice was the last thing to enter the mind of either; yet, in their description of the natives of the three kingdoms mentioned, they do not seem to have overlooked facts and incidents apparently invested with the most

trivial importance, although oftentimes related on the score of anecdote. In this manner have I been furnished with some information, not only interesting, but of real importance and value. If the Chinese and Japanese are comparatively mild and feeble speakers from the causes mentioned, it is not so with the Tartars. In them the voice is decidedly stronger, louder, and more powerful, yet still partaking of the laryngeal or metallic twang. My authority for this is Huc, who states in his *Travels in Tartary*, "The manners and movements of these inhabitants of the desert are abrupt and jerking; their speech brief and energetic. The tones of their voice have something about them metallic and deafening. Many of them are wealthy; and with these display consists in decorating the sheath of the sword with precious stones, and their own robes with borders of tigerskin. The horses which they bring to Tang-Keou-Eul are remarkably beautiful, vigorous, well-made, and of great grandeur in the step,—in all respects far superior to those of Tartary, and fully justifying the Chinese phrase, 'Sima Toung-mieou' (western horses, eastern oxen)," p. 23, vol. ii.

I have preferred giving this extract in full, because it expresses so much, in a few words, relating to the character of the people, in which energy, activity, and determination play an important part. No wonder need be expressed in the power of the voice, which is rendered metallic and deafening from causes which shall be presently explained. A good instance of vocal character and power in the Tartar is furnished by the following extract:—

"On the day of our arrival at Tang-Keou-Eul, a few minutes before we entered the town, we met a long hair, who had been giving his horse drink in the river Keou-Ho. Samdadchiemba (Huc's servant), who was always attracted by anything having an eccentric air, cautiously approached the man, and saluted him in the Tartar fashion, saying, 'Brother, art thou at peace?' The Houng-Mao-Eul turned fiercely towards him; 'What business of thine is it, tortoise-egg!' cried he, with the voice of a stentor, 'whether I am at peace or at war? And what right hast thou to address, as thy brother, a man who knows nothing

about thee?" Poor Samdadchiemba was taken all aback at this reception; yet he could not help admiring, as something very fine, this haughty insolence of the long-hair" (vol. ii, p. 24).

Samdadchiemba, who was the cameleer of Messrs. Huc and Gabet, was a young man, who was neither a Chinese, a Tartar, nor Thibetian, but one whose features partook of the Mongol race. Huc describes his face as "having no decisive character; it exhibited neither the mischievous knavery of the Chinese, nor the frank, goodnature of the Tartar, nor the courageous energy of the Thibetian; but was made up of a mixture of all three" (vol. i, p. 20). The character of his voice is not given; but "an exertion of his strong lungs" induced Tartars in the distance to turn in their saddles, and come up to him (p. 29). At night, it appears, he snored with all the might of his lungs until daybreak (p. 31). This last is significant of some pendency of the epiglottis, probably to the extent of one-half. His voice I infer to have been moderate in power; and his surprise at the reception he met with from the Tartar need not be wondered at, for in fact he had "caught a Tartar."

On one occasion, three horsemen overtook them; one of whom, whose costume bespoke him a Tartar Mandarin, addressed them with a loud voice: "Sirs, where is your country?" "We came from the west." "Through what districts has your beneficial shadow passed?" "We have last come from Tolon-Noor." "Has peace accompanied your progress?" "Hitherto we have journeyed in all tranquillity. And you, are you at peace? And what is your country?" "We are Khalkas, of the kingdom of Mourguevan," etc. (p. 39, vol. i). The *loud* voice uttered by these Tartars is so striking and impressive, that Huc seldom let an opportunity pass of referring to it. On visiting the caves of the Ortous, in Tartary, Huc relates:—

"We directed our steps to the opening of the cavern, and on reaching the threshold of the door, perceived within a large fire of hemp-stems, whose undulating flame reached the ceiling, so that the place looked like an oven. On further investigation, we observed a human form moving amidst the thick smoke; we soon heard the Tartar salute, "Mendou!" uttered by a sonorous voice, "Come and sit beside this fire." We did

not like to advance. This cave of Cacus, that loud voice presented to our minds something phantastic. Finding that we remained silent and motionless, the inhabitant of this sort of vent-hole of Erebus rose, and came to the threshold. He was neither a devil nor a ghost, but simply a Mongol Tartar, who, the night before, having been surprised by the storm, had fled to this cave, where he had passed the night" (vol. i, p. 181).

In Tartary, the women lead a very independent life, riding out on horseback at pleasure, and visiting each other from tent to tent. Differing from the "soft languishing physiognomy of the Chinese women, the Tartar woman presents in her bearing and manners a power and force well in accordance with her active life and nomad habits, and her attire augments the effect of her masculine, haughty mien" (vol. i, p. 187).

The voice of the Tartar woman is not inferior to that of the men, in power, at any rate, if we may judge from the behaviour of an innkeeper's wife, who for her obstinacy received a formidable box on the ear from her husband, which sent her into a corner, screaming at the pitch of her voice (p. 291, vol. i).

The following picture of the Mongols, as distinguished from the Tartars, in the words of M. Huc, cannot but be interesting here:—"The Mongol has a flat face, with prominent cheek-bones, the chin short and retiring, the forehead sunken; the eyes small and oblique, of a yellow tint, as though full of bile; the hair black and rugged, the beard scanty; the skin of a deep brown, and extremely coarse. The Mongol is of middle height; but his great leathern boots and large sheep-skin robe, seem to take away from his height, and make him appear diminutive and stumpy. To complete this portrait, we must add a heavy and ponderous gait, and a harsh, shrill, discordant language, full of frightful aspirates. Notwithstanding this rough and unprepossessing exterior, the disposition of the Mongol is full of gentleness and good-nature: he passes suddenly from the most rollicking and extravagant gaiety to a state of melancholy, which is by no means disagreeable" (vol. i, p. 257). I would draw particular attention to the "harsh, shrill, discordant language, full of frightful aspirates."

The Lamas of Thibet are not inferior to their brethren, the

Mongols and Tartars, in vocal power, which is manifested on the occasion of exorcising the demon of sickness. The following description by Huc has reference to prayers recited by the Lamas for the recovery of a person ill with intermittent fever. "Upon a given signal, the clerical orchestra executed an overture, harsh enough to frighten Satan himself, the lay congregation beating time with their hands to the charivari of clanging instruments and ear-splitting voices. The diabolical concert over, the Grand Lama opened the Book of Exorcisms, which he rested on his knees. As he chanted one of the forms, he took from the basin, from time to time, a handful of millet, which he threw east, west, north, and south, according to the rubric. The tones of his voice, as he prayed, were sometimes mournful and suppressed; sometimes vehemently loud and energetic. All of a sudden, he would quit the regular cadence of prayer, and have an outburst of apparently indomitable rage, abusing the herb-puppet with fierce invectives and furious gestures. The exorcism terminated, he gave a signal by stretching out his arms, right and left, and the other Lamas struck up a tremendously noisy chorus in hurried, dashing tones; all the instruments were set to work; and meantime the lay congregation, having started up with one accord, ran out of the tent, one after the other, and tearing round it like mad people, beat it at their hardest with sticks, yelling all the while at the pitch of their voices, in a manner to make ordinary hair stand on end" (vol. i, pp. 66, 67).

The same sort of vocal chaos, so to speak, is exhibited when a Lama Boktè manifests his power of killing himself, yet not dying. "At his feet, numerous Lamas, ranged in a circle, commence the terrible invocations of this frightful ceremony. As the recitations of the prayers proceeds, you see the Boktè trembling in every limb, and gradually working himself up into phrenetic convulsions. The Lamas themselves become excited: their voices are raised; their song observes no order, and at last becomes a mere confusion of yelling and outcry. Then the Boktè suddenly throws aside the scarf which envelopes him, unfastens his girdle, and, seizing the sacred knife, slits open his stomach in one long cut" (vol. i, p. 191).

During the festival of the new year at Lha-Ssa, the town is invaded by innumerable bands of Lamas, who run through the streets in disorderly bands, uttering frightful cries, chanting prayers, and fiercely quarrelling with their fists (ii, p. 218). This behaviour of the Lamas is in vivid contrast to their usual quiet behaviour, modest mien, and low and grave tone of their voices (vol. ii, p. 32.)

The extracts which have been given, so clearly and yet so accurately, represent the general character of the voice amongst the races of people inhabiting Tartary, Thibet, and Mongolia, that I must be pardoned for not altering their phraseology, nor condensing them more than was absolutely necessary. The metallic and deafening tones of the voice well explain the character of the latter, as might be common to a race of people who almost habitually live in the saddle, and whose incessant activity and constant travelling contribute to render them very vigorous, and capable of supporting the most terrible cold without appearing in the least affected by it (i, p. 68). If the Tartars utter deafening cries and shouts (i, p. 110), and dispute by turns furiously and argumentatively (i, p. 120), they possess at the same time much fluency of tongue (i, p. 120). There cannot be much difficulty in arriving at a tolerably correct estimate of the condition of the Tartar's larynx from the faithful description given by Huc and Gabet of these races of people. In them all, but more especially in the Tartar tribes, the larynx is well developed, and is very prominent in the neck, the pomum Adami being a conspicuous feature. The vocal cords, consequently, are long and powerful, surmounted most probably by capacious ventricles. The metallic and deafening tone of the voice has been partly acquired by habit, and by partial pendency of the epiglottis, to the extent, most likely, of more or less of three-fourths. The Tartar voice, screechy and noisy, painfully affecting the ear of those unaccustomed to it, is inferior to the sonorous voice of the European; yet possessing more power and, on the whole, approaches nearer to it than that of many other nations. The extreme cold and rigour of the climate of Tartary, I think is favourable to the immunity from complete pendency of the epiglottis,

although, no doubt, many such examples may still exist among the Tartars and Mongols.

From these various accounts it is fair to argue that, in accordance with the character of their voice, the Tartars are a strong, vigorous, active, energetic, and powerful race, the worthy descendants of the great Genghis Khan, whose conquests in the thirteenth century struck terror into the surrounding nations, and which showed, moreover, what such a race of people were capable of executing. In the study of this interesting subject, nothing has commanded my admiration more than the character possessed by some of these noble Tartars, whose commanding voices were a part of their true nature.

Before proceeding to the next great kingdom, I would here remind the reader of Defoe's account of the Cochin-Chinese in the great bay of Tonquin, in *Robinson Crusoe*. Boiling hot tar was freely ladled over their naked bodies when attacking the ship undergoing repairs, which caused them to roar out like bulls. They made such a fearful howling and crying, that Crusoe compared it to the howling of wolves, for he never heard anything more nearly approach to it (pp. 384, 385, 386, of *Robinson Crusoe*).

So much space has been devoted to the two other divisions of the Asiatic nations, that I am compelled to limit my observations relatively to the inhabitants of India and Birmah. I am not going to enter into a consideration of the vocal character of the numerous tribes of India and Birmah, that would be a task in itself alone of great labour. The subject shall be noticed in reference to the inhabitants of India generally; I am indebted for some of my information to my friend Lieut. Cecil P. Stone, of H.M. 77th Regt., who has been many years in India, and who is moreover a great observer of Indian character. He replied to a series of interrogations of mine.

The chief characteristics of the voice of the natives are the following:—It is generally soft and plaintive, and very feminine. It is not so very powerful as shrill, the natives always sing in falsetto, but they can be heard at a great distance. The natives of the hills have a more robust voice than

those of the plains, and, from the habit of always calling to each other from hill to hill, have contracted a habit of loud speaking.

The hill tribes possess somewhat of a metallic twang in their voices, but those of the plains are plaintive and whining.

The natives do not possess a good speaking voice, as a general rule they do not possess voices well-calculated for oratory. They are not resonant, and never speak *ore rotundo*. As a general rule, the males possess a prominent thyroid cartilage.

There is much difference of voice in the various races of India; it may be predicated, as the variety of race, so variety of voice.

Lieut. Stone never heard a bass singer during the whole of his sojourn in India, nor even a barytone; the natives always sing falsetto. The compass of the voice is small, hardly above the octave.

In the main my observations of Indian character lead me to concur with my friend; nevertheless, I have heard good clear audible voices amongst the natives of Bengal, not unlike Europeans, more especially when they have much mixed with them. This has been observed also in the women. The slightly metallic twang varies a good deal, being sometimes almost altogether unobservable; but, as a rule, it is distinctly characteristic. In the males the thyroid cartilage is prominent, large, and deep, with fairly long vocal cords, the larynx being formed as in Europeans, but with this peculiarity, that in nearly all the natives of both sexes, particularly those I have examined in this country, the epiglottis is completely pendant, and curled under in variable proportions. I have scarcely seen a single instance of the pretty, oval, leaf-shaped epiglottis, such as we are in the habit of seeing it amongst Europeans. This pendant peculiarity must necessarily impart twang and metallic tone to some extent; and points to loss, or rather absence, of physical power and strength in the entire inhabitants of the plains. It may vary in the hill and mountain tribes, especially as they extend northwards, towards a more bracing and invigorating atmosphere on elevated lands. The natives of India are pretty

nearly on a par with the Chinese and Japanese in vocal power and compass, but they are decidedly inferior to the Tartars and Mongols.

In dwelling upon the character of the voice in the various races that inhabit the African continent, necessity compels me to confine my remarks wholly and simply to the *Negro*, as we understand by that term the various black races found in the interior and on some of the coasts, especially the western. This will permit me to take in the slaves which have been exported to the American continent and elsewhere.

Of slaves and free blacks in North America I have had many, indeed I may say abundant opportunities in the earlier part of my life of studying their peculiarities in regard to voice and speech, and their new home, so to call it, has not altered what is common to them as a race. My inspection of the interior of the living larynx, however, in the Negro, has been made in this country.

The larynx of the Negro contains all the various parts common to other races of mankind; nevertheless, as I have shown in a memoir upon the subject published in the second volume of the *Memoirs* of the Anthropological Society,* there are essential differences in the larynx of the black and white races, which necessarily exert their influence in modifying the character of the Negro voice. The Negro larynx is fairly developed, not unusually prominent in the neck, and the vocal cords are not, perhaps, of the full length of those in the European races, nor of the Tartars. Nor are they again as short as in the Chinese and Japanese. They are, probably, of intermediate proportions between the Chinese and Tartars. They differ, however, from all other races of mankind, which I have had the opportunity of examining, in these particulars: the plane of the superior surfaces of the vocal cords, instead of being horizontal, slopes from within outwards and downwards; this permits a view of the fundus and entire cavity of the ventricles of the larynx which, in their situation and position,

* Essential points of difference between the larynx of the Negro and that of the white man.

may be compared to the saddlebags placed upon the back of a mule. In the white and other races we cannot see the interior of the ventricles, because their direction is outwards, and their situation either on a level or above the plane or horizontal surface of the vocal cords. Besides these, the Negro possesses very large and prominent Wrisbergian cartilages,—little bodies, like small round peas, at the top of the back of the larynx, not commonly seen in other races of mankind.

Then, as a rule in the Negro, the epiglottis is, for the most part, pendant and curled under laterally; a condition which I have even seen in a lot of healthy young lively and laughing Negroes from the river Congo.

All these peculiarities, I think, incontestably point to the want of great vocal power, such, for example, as a loud and commanding voice. On the other hand, they possess the elements of a bellowing or roaring voice, a deafening noisy sound, without anything musical or distinctive about it, beyond mere noise. Their speaking voice varies; it is either smooth and harmonious in tone, slightly guttural, or it is rough and husky. The former predominates, and is, on the whole, agreeable and pleasing, and where it does, the Negro is a laughing low-musical and singing person. Negroes are always more disposed to be merry and laugh than to be sad and gloomy. Dull care they drive away, unless their grievances are strong and bitter. Possessing strong powers of imitation, they are in the habit of taking off other speakers, winding it up with a chuckle. Dr. James Hunt, in his essay *On the Negro's place in Nature*, says :—"There is a peculiarity in the Negro's voice by which he can always be distinguished. This peculiarity is so great that we can frequently discover traces of Negro blood when the eye is unable to detect it. No amount of education or time is likely ever to enable the Negro to speak the English language without this twang. Even his great faculty of imitation will not enable him to do this" (p. 22).

This twang is slightly nasal, but I do not think it general to the Negro as he exists in Africa. In America it has been derived by imitation from his master. In the elderly Negress the voice becomes acute and shrieking or shrill, but it is not so

in the young. Livingstone, in his work on the Zambesi (p. 551), refers to the "shrill calls of women watching their corn," and the "shrill wail of the women, O Mae" (p. 553).

And I agree with the following observation of Dr. R. Clarke to some extent:—"A pleasing manner, soft and winning ways, with a low and musical laugh, may in strict truth be declared to be the heritage of most of the Negro women" (Dr. Hunt's *Essay*, p. 22).

Livingstone says:—"The laugh of the women is brimful of mirth. It is no simpering smile, nor senseless loud guffaw; but a merry ringing laugh, the sound of which does one's heart good. One begins with Hă, Héé, then comes the chorus, in which all join, Hăéééé! and they end by slapping their hands together, giving the spectator the idea of great heartiness" (p. 503). "The cries of children, in their infant sorrows, are the same in tone, at different ages, there as all over the world" (*Idem*, p. 503).

"On passing a beautiful village, called Bangwe, surrounded by shady trees, and placed in a valley among mountains, we were admiring the beauty of the situation (writes Livingstone), when some of the much-dreaded Mazitu, with their shields, ran out of the hamlet, from which we were a mile distant. They began to scream to their companions to give us chase." "The first intimation we had of the approaching Mazitu was given by the Johanna man, Zachariah, who always lagged behind, running up, screaming as if for his life" (p. 551-2). The scream here mentioned was most probably a sort of a roar or bellow, and not a shrill sound.

I never heard a fine loud sonorous voice by a Negro, although they have the power of uttering bass notes in a low and grave tone, from the peculiarities of their larynx, notably pendency of the epiglottis. The position of the ventricles of the larynx is unfavourable to intensity and gravity of sound, and to power and compass, as met with in Europeans. A barytone voice is not uncommon amongst Negro singers, and now and then falsetto voices in females, although I have recently heard of a Negro prima donna, whose voice is said to be a fine soprano. So much for the Negro voice.

It now remains for me to consider the vocal character of Europeans, and to contrast it with what has been stated concerning that of Asiatics and Africans.

Speaking generally, the natives of France and England, Germany, Russia, Italy, and other countries of Europe, possess strong, powerful, sonorous, and clear voices. There may be slight variations as to character and tone; but, as a rule, they all agree in possessing power, full compass, range, clearness, and loudness of sound. Take the Frenchman, for example, with his oratorical powers, distinctness of utterance, sonorous vibration, and audible voice, free from twang. The Italian is not inferior to the Frenchman in any respect. The Englishman, although a slower speaker, and perhaps with less fluency of language, is behind no other European nation in vocal capacity, and his voice has been heard above all others on the trying occasion of the din of battle, in commanding his fellow man; or in the senate, where his oratory, uttered in notes of distinctness and vocal power, attracts the attention of his hearers. The Russian, not unlike the Englishman in many respects, although, perhaps, with somewhat feebler vital capacity, has a voice of energy and power distinctly heard in the open air, and, in some of the districts of Russia, possessing very great power and intensity of sound. The hurrah of the Russian and the huzza of the Englishman, have been considered not unlike one another in vocal power and character. But of all the nations of Europe, there is one that carries off the palm both in power and intensity of sound, and in noisy utterance. If the metallic sound of the Tartar's voice deafens one, the continuously sonorous vibration of the running speech of the German stuns one. Whether this be owing to the peculiar guttural language, the vital capacity, or the desire to be heard above his fellow-man, I will not undertake to say; but the German has the most powerful voice in Europe. In a mixed assembly of speakers, *e. g.*, International Congress of Archaic Anthropology, the question is asked, Who is that loud speaker addressing the chair, the tones of whose voice painfully tickle the ear? Oh! the reply is made, that is Professor Sticken Mudden, of Chairhausen, a great authority on tooth-

less skulls. To the German race must be accorded the proud pre-eminence of possessing the most powerful voices amongst the various nations of Europe, and, perhaps, the French come next, although I am not disposed to acknowledge that vocal capacity and power in the Englishman is inferior to the French; this is owing, perhaps, to our climate as much as anything else, which is favourable to physical endurance, and increased vital capacity. The larynx is well developed in the nations of Europe, of full depth from before backwards, and good length of vibrating vocal cords. There is an essential absence of twang and metallic sound, which is, for the most part, due to the comparative infrequency of pendency of the epiglottis when contrasted with the natives of Asia and Africa. Amongst Englishmen, 11 per cent. is the amount of it, as given in 4,600 healthy people examined by myself;* and I do not think that the percentage in other European nations will exceed that; it may slightly do so, but future observation by other workers must determine the question. Nothing points more to the superiority of vocal character than the singing powers of a nation; and in this respect many of the European countries excel. Europe is the cradle of song, although a large cradle, if you like, but it points to superiority of voice in strength, power, compass, and sound. The details of all this the limits and nature of this paper prevent my going into. From these and other causes, therefore,—to speak in general terms,—the character of the voice is superior in the European to the Asiatic and African. He, perhaps, cannot *bellow* as loud as the Negro, nor can he screech as loud as the Tartar; nevertheless, his vocal character is superior to both. But in strength of voice he must yield to the Tartar, who, without exception, has the most powerful voice in the world. Consequently, the Tartar is physically superior to any other nation; but the various nations of Europe come next to him, even if some do not equal him, and possibly, indeed, may excel him. The Germans rank next to the Tartars. And amongst ourselves, I am disposed

* See my paper on "Vocal and other Influences upon Mankind from Pendency of the Epiglottis," p. 106.

to believe that a considerable proportion of the Irish have more powerful voices than their fellow subjects the Scotch or English. However, opinions may vary upon this point; for amongst the Celtic spoken of the Scotch and Irish, there is a similarity in this respect: their vocal power is considerable, and not unequal, which may be due to their peculiar language.

As the subject is a new one, and the field untrodden, I trust that the necessary short-comings in the treatment of it in this paper will be charitably overlooked, and harsh criticism disarmed.