

Sandow in Plaster of Paris.

A UNIQUE CAST.

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MY friend the Superior Person had been visiting the South Kensington branch of the British Museum, and he came back in high dudgeon. When I met him, indeed, he was literally spluttering with wrath. Evidently his very superior susceptibilities had suffered cruel outrage. "Great Scot!" he ejaculated, in replying to my look of inquiry, "what will the Museum be coming to next? A penny show with marionettes and performing dogs, I suppose. They've actually got a cast of Sandow the Strong Man—music-hall people in the British Museum, faugh!" And the S.P., having delivered himself of this outburst, turned on his heel and tempestuously took himself off.

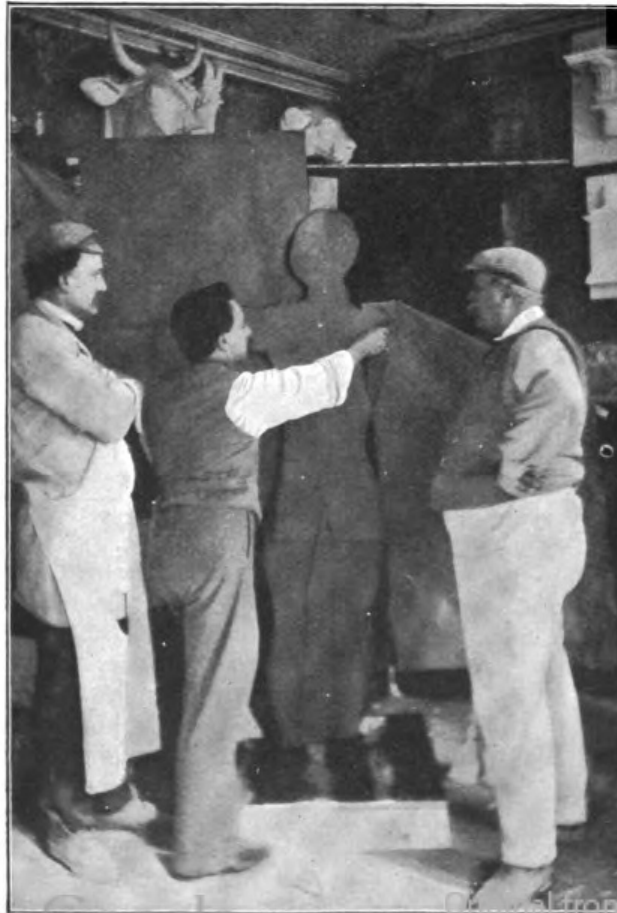
Now, although I am very far from sharing his opinions on most subjects, his remarks certainly excited my curiosity. That there should be a cast of Eugen Sandow in the Museum did not surprise me very much—on the contrary, it seemed to me that the authorities would have been remiss in not seizing the opportunity of handing down to future generations a permanent record of the most perfect specimen of physical culture of our days—perhaps of any age. Still, I know what popular prejudice is—even in these enlightened days individuals still exist who regard the cultivation of the body as a thing to be frowned upon, who are perfectly willing to hold up to our admiration the beautiful human

forms of classical times, but regard any attempt to emulate these worthies as pernicious in the extreme. So after examining the cast (about which I shall have a good deal more to say in a moment) it occurred to me that it would be a good idea to see Professor Ray Lankester and ascertain how the new departure of having the cast of a living man on view had come about.

Professor Lankester was good enough to devote a few minutes of his valuable time to me, and gave me a very clear idea of his object in advising the Trustees to have the cast made. It serves a twofold purpose, and is interesting to anthropologists for two reasons. Firstly, it presents a perfect type of a European man (and in course of time Professor Lankester hopes to have types of all the races), and, secondly, it furnishes a striking demonstration of what can be done in the way of perfecting the muscles by

simple means. A good many people, he remarked, are fond of insisting that the mighty men of muscle which were portrayed in marble by the sculptors of the classical age were simply products of the sculptors' imagination: fancy presentments of men as they might be, rather than of any who actually existed.

But here we have a cast of a man who lives and breathes at this very moment which comes favourably out of a comparison with any of them. A cast, mind you, as Professor Lankester was careful to bid me remember—a model would have



ROUGH PAPER OUTLINE FROM WHICH THE "SHELLS" ARE MADE

been of small value; but here we have the actual mould of the living figure, which must be correct in every detail. In the times to come this will show the world that such men as the great sculptors portrayed have most indubitably existed in the flesh. I am glad to say that Professor Lankester demurs very strongly from the notion entertained by a good many people that Sandow's wonderful development entitles him to be regarded as a "monstrosity" rather than as a physically perfect human being. As he so logically put it to me, who is to say what are the limits of muscular development—where the line is to be drawn where healthy development leaves off and monstrosity begins?

The ordinary athlete regards himself with his fairly well-cultivated muscles as superior physically to the man who spends all his time sitting at a desk or engaged in indoor occupation. Why should he be loth to admit that Sandow is as much ahead of him in this respect as he is of the ordinary individual? Certainly the judgment of the Curator of the Natural History Department of the National Museum is one that ought to carry weight, and I think enough has been said to show that he is fully alive to the educational value that the cast may prove to the public.

He is probably the last man in the world who would be moved by considerations of what is likely merely to amuse and to gratify the idle curiosity of a certain section of the public.

But, as he also pointed out to me, the cast is interesting for another and entirely different reason from those already enunciated. It is practically unique of its kind; probably no such cast has ever been attempted, not to say satisfactorily completed. Of course,

casts of hands, and feet, and faces are common enough, and now and again a cast of the whole living body in a recumbent, relaxed position has been taken; but this cast is entirely different, being no less than of the complete figure, posed, and with the muscles in a tense condition. The latter fact renders it doubly valuable from an anatomical point of view, as the muscles are shown standing out with great clearness, and of course this would not have been the case had the cast been taken from the figure in a condition of relaxation. Naturally this added very greatly to the difficulty of carrying out the work—

not the least part of it falling upon the subject. Indeed, Messrs. Bruciani, the famous cast-makers, who undertook and carried out the work, told me that at the beginning they were exceedingly doubtful whether the attempt would be a success. The process was a long one and a tedious one—indeed, from first to last it occupied over a month. As it is highly probable that the majority of the readers of THE STRAND are ignorant of the process of cast-making a brief description of the work as kindly explained and shown to me by Messrs. Bruciani will give them



MOULDING OF FIGURE FROM FEET TO HIPS (FRONT).

a clearer idea of the exceptional difficulties which have just been tackled with such excellent results.

The ordinary process is a comparatively simple one. A mould roughly corresponding in shape but somewhat larger than the object of which the cast is to be taken is made. This is placed round the object and the intervening space filled in with plaster of Paris in a semi-fluid condition, and this, of course, moulds itself to the exact shape of the object it covers. The latter has prior



POSING FIGURE—THE SUPPORT FOR RIGHT ARM WILL BE NOTICED.

to the commencement of operations been oiled in order to prevent the plaster from sticking. When the plaster sets it is carefully removed in sections, and these, when placed together, form a perfect mould. Into this plaster is again poured; when this hardens the mould is broken off and the cast itself remains.

Now, all this seems simple enough, and so it is when an inanimate object is concerned or a portion of the human frame in repose. For in order to insure success while the mould is being made it is absolutely necessary that the subject should be practically still. That is so obvious that it is perhaps scarcely doing justice to the intelligence of the ordinary reader to lay stress upon it; the smallest movement tends to disturb the hardening plaster and mars the perfection of the mould. Is it surprising, therefore, that, as it takes from ten to fifteen minutes to complete each one of the separate pieces of which the complete mould is made up, Messrs. Brucciani were rather dubious as to the result? However, they got to work, and slowly, piece by piece, not without occasional disappointments and failures, the thing got itself completed. They are quite sure that

no one but Sandow could possibly have "sat" for such a work of art. Fancy; you young men who are fond of baring your right arm and displaying that little lump of biceps you refer to as your "muscle"; fancy setting your teeth and keeping that muscle "up" for a quarter of an hour! And without moving it more than the proverbial hair's breadth! This is what had to be done, and, mind you, whether it was the arm, or the neck and shoulders, or the legs that were being operated upon, the whole pose had to be struck, all the muscles contracted, as otherwise the pieces would never have fitted properly when they came to be joined.

Certain mechanical devices had, of course, to be adopted to insure that the pose should be exactly the same on each occasion. The strain of holding the muscles tense was so great that only about a couple of moulds could be taken at one "sitting," and so Sandow had to submit himself to the ordeal day by day for nearly a month. The photographs which we publish give a very fair idea of the whole process. They were, of course, taken at the time, and the whole series



Moulding chest and abdominal muscles.



TAKING MOULD OF BACK AND SHOULDERS — THE SLIGHTEST MOVEMENT OF ARM WOULD DISTURB THE "DELTOID" AND "LATISSIMUS DORSI" MUSCLES.

(of which we give the most striking) show how the work was conducted from beginning to end. In the first instance, an outline in paper, roughly to measurement, of the figure in the pose proposed to be taken up was made; this was simply to serve as a guide for the making of the "shells" for supporting the plaster forming the moulds.

The mechanical arrangements for securing the same pose each time to which I have alluded were very simple. The position of the feet on the floor was marked out, there was a support for the right elbow, and also for the fingers of the right hand—this insured that the right arm should be in the proper position as regards the body and also flexed always at the same angle. The position of the other hand was also marked, and that of the top of the head. These were helps in taking up the pose, but, of course, practically none at all in keeping it so far as the muscles were concerned

—they had to be kept contracted purely by an effort of will. It may be noticed that in the hands are clasped the grip dumb-bells; this was in order to facilitate the keeping the muscles tense and rigid.

The dumb-bell in question is made in two parts, with springs between them which have to be compressed before the two halves can be brought together—by bringing them together and then keeping them there the muscles were kept in the proper tense and immovable condition necessary for the successful execution of the cast.

After the shells were made it was necessary to mark out the figure into sections, each of which was moulded separately. A certain amount of margin was allowed in each piece, this being taken off afterwards according to the most absolutely correct measurements before the numerous sections were fitted together. Of course, by comparison, the work entailed over some of the sections was easy; thus, the filling in of the shell round the legs was in a manner plain



HERE IS THE MOULD OF BACK JUST TAKEN OFF.

sailing by contrast with the difficulty and anxiety entailed over other portions of the figure which it was so much harder to keep perfectly still. Possibly most trouble had to be taken over the front of the figure from the waist upwards—it will be noticed that the abdominal muscles are set, and that some of the chest muscles are brought out also. To “set” one’s chest or abdomen long enough to be measured is simple enough, and is usually managed by holding the breath. Obviously this was out of the question in this instance; even Sandow could hardly be expected to refrain from breathing for the space of a quarter of an hour! How he managed it will be told in a minute in his own words.

In spite of almost complete immobility on the part of the subject it is more than probable—indeed, a careful survey of the completed cast as it stands in the Museum convinces me of the fact—that the cast in some respects does not, and cannot, do perfect justice to the living subject. Even an almost imperceptible movement affects the plaster, and slight



TAKING HEAD AND NECK—THE HAIR IS COVERED WITH A CLOTH.



MOULDING UPPER PORTION OF BACK AND NECK.
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movement there must have been, with the natural result that a few of the very finest lines may have been lost. This, to a close observer, especially if he be endowed with some knowledge of anatomy, is specially to be noticed in the muscles of the chest and the lower portion of the throat—very fine, indeed, are they in the cast, but here and there the effect of what a painter would call very minute *nuances* seems to be lost—at all events, that is the impression made upon those of us who have had numerous opportunities of inspecting the original.

Thus the cast is certainly not flattering; on the contrary, if it falls short at all it is that, while it represents very finely the development and the general contours of Sandow, it here and there is deficient in those fine lines, those little shades of muscle which soften the massiveness of the build and cause even his herculean figure to look shapely and graceful. Not that I mean to imply for a moment that the cast in any way gives an impression of unwieldy strength and coarseness of development—one has only to look at many of the classical statues in Great Russell Street to see that it does



MAKING READY TO TAKE FACE—HAIR, NECK, AND MOUSTACHE COVERED WITH CLOTHS.

not suffer by the comparison ; all I mean is that, beautiful piece of workmanship as it is, the dead plaster does not and cannot represent in its full perfection a form the charm of which to no small extent depends upon the fine gradations and mobile finish of its development.

Again, there are certain minor points of difference which the captious critic will no doubt seize upon with unholy glee. Do a few hairs in the moustache take a turn unseen in that of the original? Is the hair of the head a trifle too regular in its curliness? Well, let it at once be explained that there are limits even to the cast-maker's craft—that the taking of a mould of the separate hairs of a man's head is out of the question. The general contour of both hair and moustache were cast, but they were covered over with a piece of linen for the purpose, otherwise the consequences would have been very disastrous to the victim. He would have emerged from the ordeal, in fact, balder than the new-born babe ; as it was, in spite of the body and limbs being well oiled before the plaster was put on, the removal of the latter caused him a

good deal of trouble. So the hair and moustache, having been roughly cast as described, were modelled afterwards from photographs specially taken for the purpose. These and the eyes (the cast of the face, of course, being taken with the eyelids closed) were finished by skilled craftsmen, and are the only parts of the figure in which there is any possibility of any error having been made. Personally I have seen Sandow standing by the cast, and have carefully compared the two heads ; I don't think that there is much to choose between them. Always excepting the fact that the cast is lacking in the fresh colouring and blue eyes of the original.

Here is another point which will probably interest both the earnest student as well as the curious layman. What are the dimensions of the cast? Here they are as taken by Messrs. Brucciani, with mathematical exactness :—

ACTUAL DIMENSIONS OF CAST.

	in.		in.
Chest	49	Thigh	25
Waist	36	Calf	17½
Biceps	18	Ankle	9
Forearm	15½	Neck	17
Wrist	7¾	Height	69



A VERY CURIOUS EXPERIMENT.



A SIGH OF RELIEF—THE MASK IS FINISHED.

Now, the probability is that a question will at once arise in the minds of a good many people, and especially of those who have read Sandow's book: How do these measurements taken from the cast compare with those given by Sandow himself? Do they exactly agree, and if they differ, are they larger or smaller? And, if so, why? These are quite fair questions, and as a preliminary to answering them I give the dimensions as they appear in the book. Here they are:—

DIMENSIONS AS GIVEN IN BOOK.

	in.		in.
Chest	48	Thigh	26
Waist	30	Calf	18
Biceps	19½	Ankle	8½
Forearm	16½	Neck	18
Wrist	7½	Height	69¼

It will be noted that the figures are not identical—that in most cases those given in the book are bigger than those of the cast, whereas in one or two instances the reverse is the case. This is capable of a very simple—I might say obvious—explanation. The measurements given in the book are those of each limb taken separately, in the position which gives the greatest measurement and with the muscles contracted to their maximum extent. In the pose for the cast the conditions were far otherwise. To begin with, in no one case is any

particular limb placed so as to bring the muscles out to their fullest extent. Again, as so many groups of muscles are contracted at once, it is apparent that the amount of nervous energy which in the other case would be concentrated upon the muscles of one limb is spread over a much wider space; and, lastly, it would have been quite impossible to keep up for a quarter of an hour or even ten minutes a tension which it was a strain to retain for a few seconds for measuring purposes. Had it been attempted the result would have been dire failure—after a minute or two the tension would have relaxed and the mould been spoiled.

On the other hand, in the cast the chest is 49in. as compared with 48in. (normal) of the book; the waist is 36in. compared with 30in.; but the height is only 5ft. 9in. as compared with a quarter of an inch more. Regarding the latter—the figure in the cast is not perfectly upright; the contraction necessary to show the development of the abdominal muscles takes a shade off the height. The forcing out, again, of the muscles makes the waist measurement much greater than it would be were the chest fully expanded and the former drawn in, while the extra inch round the chest is due to the slight increase from the normal which the pose entails.

And what does Sandow himself think about it all? Naturally he is pleased and



TAKING THE MOULD OF THOSE MIGHTY BICEPS.



MOULDING STRETCHED OUT LEFT ARM—THE GRIP DUMB-BELL IS HELD IN THE HAND TO KEEP THE MUSCLES TENSE.

gratified that his cast should be thought worthy to be placed in the National Museum to serve as an object-lesson to generations yet unborn; but when I saw him he was chiefly concerned to talk about the sufferings he had endured over the process. He told me that it was the hardest job he'd ever had in all his life; "in fact," said he, "I should like you to say that I regard it as the greatest feat of endurance I have ever performed. Good heavens," he went on, "time after time I thought I'd have to give it up, the strain was awful. I used to finish up after each piece was done fairly 'blown,' perspiring and winded much more than after the most arduous weight-lifting performance I have ever accomplished.

"The operation is painful too—one feels as if one were being suffocated, especially when the mould of the face is being taken. They tell me that only about one man in two hundred can stand having his face done, and I'm not a bit surprised. But if that is the case I don't believe that one in a million could be found who could stand to have his chest done—mind, in a strained position, I mean. Really, when my chest and abdomen were being moulded, what with the peculiar 'biting' feeling of the plaster as it dried on the skin, and the difficulty in regulating the breathing, I thought I should

burst. How did I manage about breathing so as not to disturb the plaster? Oh, it was difficult, I confess. I had to keep the muscles of the chest and abdomen still, and take very small, quick breaths, never entirely filling or emptying the lungs, but just taking in—almost continuously—enough fresh air to take the place of that I used up; at the same time keeping the muscles set so as not to disturb the outer contour. A very troublesome job that; the worst of the whole business, and it was a tiresome business from beginning to end.

"Of course, I was only too glad and proud to do it. I grudge no trouble and time in the cause of physical culture. And I hope I sha'n't be accused of undue egotism if I say that I really do believe that having the cast before them, showing how an originally delicate child can perfect himself physically by simple and natural means, should be of benefit to those who come after us. I am glad to have had it done; as I have said, the doing it was not very enjoyable. Indeed, I don't think I'd go through it again for any amount of money."



THE CAST, WHICH YOU SHOULD GO TO SOUTH KENSINGTON TO SEE.