what a Society like this might accomplish by such machinery as you could command, I see a contrast which I can only parallel by quoting the familiar antithesis of certain two possibilities of carbon: the smoke which merely obscures our day-time, and the lamp which serves as sunshine to our night.

And here, gentlemen, I conclude. That, from this great city—the birth-place and home of so many strong and wise men, the centre of so many industries, the vigorous representative organ of so much that is worthiest in English life, there may some day come help to mankind in the conflict in which our enemy now prevails against us, is the wish, the very hearty wish, with which I bid you my respectful farewell.

A LECTURE ON RHYTHMICAL HYSTERIC CHOREA.

By PROFESSOR CHARCOT,
Physician to the Salpêtrière Hospital, Paris.

GENTLEMEN,—In one of our patients, who has for a long time been suffering from hystero-epilepsy, with attacks of a mixed character (hysteria major), we have observed, during the last few days, a rare pathological condition, quite worthy of being placed under your eyes, but which in its nature is essentially as unstable and mobile as is, it is said, the sex in which it is ordinarily developed.

The phenomena date already several days back; but it may happen that to-morrow—perhaps in a moment, for nothing can be foreseen in this respect—they will have ceased. The occasion is, then, pressing; and it is important to seize it. That is why I have resolved to commence our conferences of this year without any preliminary remarks, without preamble, and to enter at once upon the clinical study, which is, moreover, the object which we pursue in these conferences. I shall designate under the name of rhythmic hysterical chorea the pathological condition to which I call your attention. The descriptive analysis which I am about to present to you will, I hope, amply furnish the means of justifying all the terms of that denomination.

The young patient whom you see there lying perfectly conscious of her acts is hardly nineteen years of age; her previous clinical history is, however, already very long and very eventful. I will mention to you its principal episodes in a moment. I commence at once the description of the symptoms with which I am desirous that you should become acquainted without delay.

That which certainly strikes you at the outset is, the remarkable movements by which the head, the trunk, and the limbs of one side of the body (the right side) are incessantly agitated. At the first view, these movements appear disorderly; it seems difficult to submit them to analysis. However, a more attentive examination enables us very soon to recognise a certain number of general characters. Thus the agitation may be decomposed, in each part affected, into alternate movements, especially of flexion and extension, always the same and absolutely uniform. You see the trunk strongly flexed on the pelvis

Fig. 1.

(fig. 1), carrying with it the head, which, in its turn, becomes bent upon the breast, and at one moment the forehead is scarcely more than fifty centimètres (twenty inches) distant from the right knee, which at

that moment is in forced extension. Then the head and the body are straightened, describing a trajectory, which represents a semicircle corresponding to that passed through just before in the opposite direction, in the movement of flexion; so that ultimately the back, and then the occiput, fall heavily upon the pillow; almost immediately the movement of flexion recommences, and is soon followed by the movement of extension; and so on. (Fig. 2.) It might be supposed that you

Fig. 2.

had here a profound and repeated salutation, rendered absurd by its very repetition and by its exaggeration.

Observe that these acts are reproduced with regular rhythm. To-day we count from thirty to forty salutations in a minute; yesterday and the day before, the agitation being greater, they varied from forty to eighty. At the same time, the upper and lower limbs of the right side are simultaneously extended and flexed alternately, following the same rhythm.

These movements of the various parts deserve, moreover, to be studied with attention, not only in their individual, but also in their reciprocal relations, in their isochronism. Let us take the stage at which the flexion of the head and trunk is as pronounced as possible. (Fig. 1.) At this moment, the entire upper limb is in extension; its long axis, directed vertically, forms a right angle with the plane of the bed on which the patient is lying; the forearm, extended upon the arm, undergoes also a movement of pronation, in virtue of which the palm of the hand is directed upwards. This attitude of the upper limb recalls well enough, you see, that which is produced in the mode of swimming which is commonly called *la coupe marinrière*. At this moment, the leg is extended on the thigh and the foot flexed on the leg, reproducing in a very marked fashion the deformity of a talipes equinus; then the lower limb, rigid in all its parts, is strongly pressed against the mattress. The flexion of the two limbs (fig. 2) is commenced immediately after the straightening of the trunk is evident, and it progressively becomes more marked at the same rate as the latter. When the revolution is completed—that is to say, at the moment when the head and trunk, completely extended, fall back on the pillow—the forearm is strongly flexed on the arm, the hand upon the forearm, and the fingers, bent on themselves, at last touch the shoulder with their extremities. Simultaneously, and in the same proportion, the thigh is flexed upon the pelvis, the leg upon the thigh, in such a way that the heel is almost brought into contact with the corresponding buttock. This attitude of forced flexion of the limbs lasts only for an instant; for it immediately gives place to a movement of extension, which becomes more and more considerable in proportion as the flexion of the head and trunk, which has again commenced, becomes more marked.

Such is the series of phenomena which, for the last twelve days, have been reproduced monotonously with almost mathematical regularity, without cessation and without a truce, night and day, except during the few hours when sleep comes. At the moment of waking, a very curious fact occurs, to which I will return directly. The limbs, which, while the patient is awake, are incessantly agitated by alternate movements of flexion and extension, become for some moments, and especially the lower limb, the seat of muscular rigidity, resembling hysteric contraction; but this rigidity is transitory and of very short duration, and soon a series of movements of extension and flexion recommence. Observe that the limbs of the right side are alone agitated by these movements; those of the left side remain quite free. Thus, with the left hand, in spite of great oscillations of the trunk, the patient can safely carry to her mouth a glass full of water without spilling a drop. She can, further, with this hand, trace characters upon paper, and even write her own name very legibly.

Some further details are necessary to complete the picture of which a sketch has now been drawn.

Examine attentively what occurs in respect to the face at the moment when the head and trunk are thrown backward. You see that, at this moment, the right labial commissure is momentarily drawn outward and to the right. The deviation ceases at the very moment when

the head is bent forward. There is thus produced an intermittent and rhythmical grimace, which is very singular. If, at the moment when this grimace is made, you ask the patient to put out her tongue, and to make it project from her mouth, you will notice that the point of the organ is carried very strongly to the right. Involuntary movements of the tongue in this same direction are produced in the mouth every moment; and, as they coincide with the deviation of the labial commissure, considerable difficulty in pronunciation is the result. The words are cut and divided, and altered by a sort of babyish imperfection, which is strongly marked. *Chau-chon* is pronounced instead of *hausson*; *chan-chon* instead of *chanson*.

We shall now, to finish this descriptive study from Nature, ask the patient to rise; the involuntary movements are quite as pronounced in the vertical position as they were in the horizontal. The young patient cannot hold herself upright without the assistance of her left arm, which she rests on the bed; with the help of another person, she can take a few steps forward; she then advances with a rhythmical balancing of the body, a cadenced movement of the limbs of the right side, which reminds one fairly of the dance called "mazurka". Such at least is the opinion expressed by some who are competent in such matters.

You have seen enough, gentlemen, to be led to recognise the affection which you have under your eyes as one which might be called a chorea, provided always that we take this word in its largest acceptation; so that, for example, it serves to designate affections of diverse nature where there exist gesticulations, involuntary movements of wide range, permanent movements, incessant, persistent, without lapse or truce—except, however, during the period of sleep. For this is not a case, as becomes evident from the first glance, of ordinary chorea (chorea minor, Sydenham's chorea), such as you may observe in another patient (A.), whom I have placed alongside of the first in order to better mark the contrast. In A., the involuntary movements belong to the classic type, and consist, consequently, in gesticulations which are not rhythmical, truly disorderly, and hardly describable, or which, at least, cannot be expressed by anything like a precise formula. In the young G., on the contrary, the chorea—which in this particular case is a hemichorea, since the movements of the limbs at least are limited to one side of the body—the chorea is of the kind which my colleague Professor Sée, in an important work which you know well, has proposed to designate under the name of systematic or rhythmic. (See *Mémoires de l'Académie de Médecine*, p. 95.) These qualifications, observe, are perfectly applied to our case. In our patient, indeed, the chorea may be called rhythmic, since the pathological movements affect a very regular rhythm. It may also be called systematic, since the movements in each period of the rhythm are reproduced according to a constant and uniform type.

We might seek to give still more precision to our terms, and to show that the pathological movements which we are studying should be referred to the variety of chorea called *malleatory*. Properly speaking, "malleatory" signifies that the gesticulations are comparable to those of the arm of the smith who strikes upon the anvil (*malleator*). But the action of striking upon the anvil is not the only one which may be imitated in this kind of chorea. If we were to persist in seeking terms of comparison in the exercise of certain physiological or professional acts, we might, looking at the movements of the arm and right leg, describe the chorea in G. as *natatory*; or it might be more naturally called *saltatory*, if we considered, on the other hand, more particularly what occurs when the patient is erect and endeavours to take some steps, and, as she goes along, performs a sort of dance.

But these shades of difference have little real importance. It will suffice, in order to characterise the situation, to point out that, in a general way, the involuntary acts in question reproduce, more or less accurately, certain intentional voluntary acts.

[To be continued.]

THYMOL AS A REMEDY IN SKIN-DISEASES.

By H. RADCLIFFE CROCKER, M.D.,

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TEN years ago, a paper was sent to the Pharmaceutical Society by a M. Bouillon, a French chemist, advocating thymol as a substitute for carbolic acid (*Pharmaceutical Journal*, January 1869). Since that time until lately, this substance has attracted but little attention in England; but in Germany, several have worked at it, among whom may be especially mentioned Volkmann, who has used it in antiseptic dressings, after Lister's method, instead of carbolic acid spray; and Bucholtz of Dorpat, who has made experiments upon its power of preventing or destroying living organisms in fluids, in comparison with

other antiseptics. In this country, however, it has been recently brought into general notice, mainly by the lectures of Dr. Burdon Sanderson at the London University "On the Infective Processes of Disease"; and as I have been employing it for the last five months in several skin-affections, it will be opportune to relate my experience of it. I was first shown this substance by Mr. Martindale of New Cavendish Street, who was selling it, dissolved in vaseline, chiefly as a lubricant for the finger in obstetric and similar examinations. Finding that its properties were similar to those of carbolic acid in some respects, I thought it would be useful as a stimulant application in skin-diseases, and so far it has certainly exceeded my expectations.

As when prescribing it I am constantly asked what is thymol, and the information regarding it is scattered through many publications, it may be well to give a short account of it. It is obtained from the essential oil of thyme, which is found in several plants—*Thymus vulgaris*, *Thymus serpyllum*, *Mentha sylvestris*, and *Ptychotis ajowan*, the last a very common plant in India, which would probably be the main source if much demand arose for it. Oil of thyme consists of two bodies; one a liquid hydrocarbon, thymene, and the other oxidised, thymol ($C_{10}H_{14}O$). It is placed by chemists in the camphor group, and is homologous to phenol, forming thymolates and sulpho-thymolates with alkalis. As imported into this country, it is a white solid, crystallising in oblique rhombic prisms, though from weak solutions it may be obtained in the form of needles, with the odour of oil of thyme, and is obtained in the solid form by freezing the essential oil or by distillation; but when made by acting on the oil with caustic alkali, with which it combines, and separating it from the alkali by an acid, it occurs as a liquid which cannot be made to crystallise. In water it is only permanently soluble about one part in a thousand, but readily soluble in alcohol, ether, glacial acetic acid, vaseline, and fatty substances generally. Still better as solvents, both on account of the quantity taken up and because so dissolved it can be diluted to any required extent, are the caustic alkalis, thymolates being formed, I believe.

As I wished to use it in the form of lotion as well as ointment, Mr. Gerrard, the dispenser of University College Hospital, undertook to work out the pharmacy of it. The results, of which I have availed myself in prescribing, are as follows. Five grains of thymol dissolved in an ounce of rectified spirit will not be precipitated on the addition of an equal bulk of water; but some will be thrown out when diluted to four ounces to be redissolved when the proportion of six ounces of water to one ounce of spirit is reached. In the proportion of two grains to the ounce of spirit, it is miscible with water in any proportion. A solution of seven grains of caustic potash in a drachm and a half of water will take up fifteen grains of thymol. A solution of ten grains of caustic soda in a drachm of water takes up thirty grains of thymol. Glycerine only increases the solubility in water very slightly. Further details may be found in Mr. Gerrard's paper in the *Pharmaceutical Journal*.

As an outcome of the above, I have used the following formulæ.

1. An ointment, consisting of one ounce of vaseline and from five to thirty grains of thymol; the thymol being dissolved in the vaseline.
2. A lotion, consisting of thymol, five grains; rectified spirit and glycerine, each one ounce; water, sufficient for eight ounces. The glycerine is added to correct the desiccating effect of the spirit alone.
3. A solution of five to eighty grains of thymolate of potash* in eight ounces of water.

As yet, I have not had occasion to use stronger lotions than the above. I have only lately used the last lotion; but so far, have found it equally efficacious, while it has the advantages of economy and the readiness with which the strength may be increased. Ointments made with lard instead of vaseline act very well, but vaseline ointments have a better appearance. The disease in which I first prescribed it and have had the greatest success is psoriasis.

In my early cases, I used the ointment of a strength of twenty-five grains to the ounce, to be rubbed into the seat of eruption after the removal of the scales, night and morning; but I soon found that it was a powerful stimulant, and that 5 per cent. was too strong for many cases; and here I must dissent from Husemann (quoted in the *Year-Book of Pharmacy* for 1876, p. 283), who has made some physiological experiments with this drug. He says: "It produces no irritation on the skin, but it does on the lips". In a concentrated form I have found it even caustic in its effects. In a case where the ointment had been carelessly dispensed, so that crystals were present undissolved in the vaseline, minute holes in the skin were produced in those parts

* Since writing the above, Mr. Gerrard has found that the alkali merely dissolves the thymol, and that when the vaseline ointment is stronger than twenty grains to the ounce, the thymol should be first dissolved in alcohol, in the proportion of one minim to the grain.