

CHAPTER VI

COMPLEMENTARY COLOURS IN DISEASE

THE theory of the Complementary Coloured band has already been described in another chapter. There now remains the consideration of the practical use of this band both in health and disease. Like most other scientific methods of research, a certain amount of skill is requisite. Even when the technique and manipulations have been mastered according to the instructions already given, there will remain the difficulty of understanding the meaning and the cause of any variations of the shades of the colour either on a large or a small portion of the body. It is essential to acquire RAPIDITY in the perception of the alteration of the tints, not for the sake of saving time alone, but so far as possible, to prevent inordinate strain upon the eyesight; and because the colour of the band is continually changing in shade and tint. It is during this period that

the modifications are most plainly to be seen. In order to obtain a full solution of the various problems a long period of hard work and such a large number of cases are required as is far beyond our capacity and resources. The utmost we can hope to do is, to give some slight assistance to other workers on this subject.

Generally it is inadvisable, if not impossible, to examine by this method the whole of the body at a single sitting, especially if C. C. bands of several colours be employed, as the eyes of the observer become tired and incapable of appreciating slight differences in the shades of colours. For the same reason if the history of the patient be known to a certain extent, greater and earlier attention can be given to the parts of the body most likely to be affected. Again, when the shape and the general characteristics of the Aura are being investigated, an abnormality may often be detected which will point to the position of some derangement. The following remarks, unless otherwise stated, refer to the *blue* complementary coloured band as in previous chapters.

When the C. C. band is employed vertically upon the thorax and abdomen of healthy men and children, the colour will remain even throughout its whole length, unless there should be any irregularity of pigmentation in the skin. This statement neither applies to girls above the age of puberty, nor to adult women, because in this class of cases the band will have at one time the colour evenly distributed throughout, while at another it will be darker a short distance below the umbilicus. The place where this change is most prominently seen is about two or three inches above the pubes. This modification will be found to coincide with the sexual functions.

One of three things is signified by the vertical C. C. band being monochromatic on the abdomen of women. The most common cause is that the woman has finished her last menstrual period at least two or three days, and that she does not expect her next before another four or five days. If the woman reckons its commencement within this time, most probably her period will be found to be delayed. A second cause is amenorrhœa, and a third early

pregnancy. At the approach of the menstrual period the C. C. band will become darkened low down, at first slightly, but increasingly as the time draws near. The colour graduates from the lighter to the darker tints imperceptibly without any definite line of demarcation, so that comparison is best made between distant parts of the band. This gradual shading is of great importance, as it often serves to distinguish between the shade of the Aura due to sexual functions, and that which is due to derangements of the abdominal organs.

Darkening of the C. C. band in the lower part of the abdomen from other causes will certainly be an insuperable impediment to the calculation of the menstrual period. If the patient be the mother of children, it will frequently be necessary to make some allowance for the pigmentation on this part of the body, but generally no great difficulty will arise from this cause, if due care has been taken. An interesting case in connection with this subject is that of a woman thirty-eight years of age, who showed an incipient darkening of the C. C. band just above the pubes. When informed that she

might expect her next monthly period in about six or seven days, she replied it was not due for a fortnight. This was noted down as mistaken prognosis. However, two months later we saw the woman again. She suddenly said, "Do you remember telling me my monthly courses would take place in about a week? Well, they did seven days afterwards, being a week before the proper time." In another instance a young woman expected to menstruate in three or four days' time. With her there was no change in the C. C. band above the pubes. It eventually turned out that her period was a week later than the right date.

The knowledge gained with regard to the sexual functions by the C. C. band, when employed vertically upon the thorax and abdomen, will be a useful preliminary to other observations, because by it we can determine if there is any modification of colour in the different parts of its length, whether the change from one shade to another be gradual, or abrupt with a sharp line of demarcation; it will also show the upper and lower boundaries of the Aura in which changes have occurred. It will

be found that the band is sufficiently wide in most cases for the observer to see whether there is any difference in colour on the two lateral halves of the body, and roughly to determine their position. Subsequently the transverse band can be used to make all the details clear. This latter band has a great advantage over the vertical band, for during the greater part of the time of observation only the central area is being used which is less difficult to see and more free from errors of observation than when the ends are employed. Case 21 is instructive and serves as an example. When the C. C. band was employed vertically down the median line of the thorax and abdomen, the left side of the former was seen to be lighter than the right for a considerable length, as the higher margin of the light portion was the upper part of the mamma, while the nether border was the lower part of the sternum. The vertical band showed also that the two shades of colour were separated by a sharp line of demarcation which corresponded with the median line of the body. Lower down the band on the abdomen there was a small patch of a different

shade on the extreme right edge a little way above the umbilicus. This gave a useful indication for further investigation with the transverse C. C. band, the results of which have been described elsewhere.

When the observer begins to examine the spine with the C. C. band, he will find it advantageous to divide the inspection into two parts, as the band is not sufficiently long to cover the whole space from the neck to the sacrum simultaneously. It will also be advisable to notice particularly, the colour of the skin over the vertebral spines, as frequently these parts have a different hue from the adjacent portion of the body. This may be quite a natural pigmentation, or the alteration of the colour may be produced by pressure of the clothes. Directly the observer looks at the spine, he will most likely detect some alteration of the shade of the C. C. band, should there exist any abnormality. The commonest abnormalities disclosed by this band on the back, are patches on the spinal column itself, either lighter or darker, as the case may be. They may be situated upon any part throughout its

length. However, the most frequent place is just over the lower vertebræ and the sacrum in women, where the band is constantly darker. The reason for this has already been stated. Two other very likely positions for alteration in colour are to be found over the last dorsal and first lumbar vertebræ, and over the seventh cervical and upper dorsal vertebræ. With the exception of the sacral patch, these are as often light as dark, and it is not unusual to find one or more patches of each variety occurring simultaneously.

Another fairly common abnormality is the appearance of a light or a dark streak by the side of the spinal column, the spine itself remaining natural.

The spots are invariably associated with pain or tenderness, not necessarily just at the time of inspection, as several weeks even may have elapsed before these pain-marks entirely vanish. The same case mentioned (on page 222) had a small light patch over the second and third lumbar vertebræ and on no other part of the body. The patient declared that she had had no pain there for a fortnight, but previously for

a short time had rheumatic pain in that spot. One day it was so severe that she had to go to bed. A patch on or near the spine having a lighter tint than the rest of the C. C. band, shows conclusively that there is no organic mischief, and that the cause is temporary, and, more frequently than not, is of a nervous origin. The darker patches are generally due to a more chronic cause, besides being often the result of rheumatism. The following case is interesting as an illustration of the above remarks, also as showing an Aura of the hysterical type.

CASE 31, Figs. 25, 26, 27.—S., a married woman, twenty-eight years old, with no children, complained of sickness during the last six weeks, which was increased by any kind of worry. For three months she has been losing flesh, menses are regular, and she occasionally suffers from globus hystericus. Her thorax is peculiar in shape, being straight down, the sternal notch being level with the nipples, although her breasts are not at all pendulous. She has tenderness in the epigastrium, and pressure causes pain between the shoulders. As she

stood facing the observer the Aura was ten inches wide around her head, the same width by the side of the trunk, but it suddenly curved inwards arriving at its minimum a little below the level of the pubes, from whence it proceeded downwards evenly. The outer margin was not very plainly marked. When she turned sideways, the Aura bulged out to about eight inches in width at the lumbar region, and curved inwards rapidly to a short distance below the buttocks, where it became contracted and continued downwards evenly. All down the front of the trunk and limbs it was about four inches wide. The Inner Aura was about two and a half inches broad over the body. There were faint rays proceeding upwards from each shoulder, and another ray from the lower right ribs outwards. Over the lower lumbar vertebræ and sacrum the Inner Aura was granular, and the adjacent part of the Outer was similarly affected. When the C. C. band was used over the thorax and abdomen the colour was even all over; on the back the band showed a strip of lighter colour near to and parallel with the spine, reaching from the third to the

THE HUMAN ATMOSPHERE

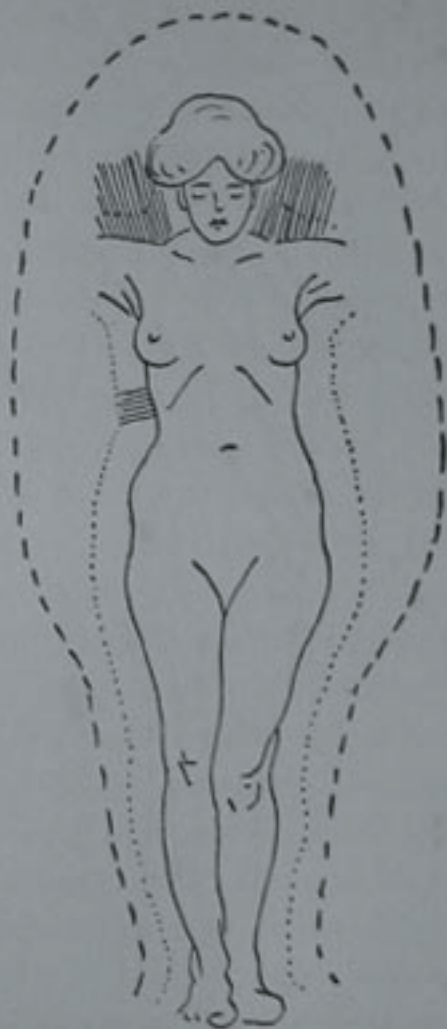


FIG. 25.—Hysterical Aura in a woman. Wide by the trunk contracting sharply, and narrow by the legs.

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FIG. 26.—Hysterical Aura in a Woman.
Side view. Great bulge at the
small of the back.

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FIG. 27.—Two discolored patches on the back seen by the aid of the C. C. band. Upper one light, and lower dark.

ninth dorsal vertebræ. This was sharply defined in all its margins and about an inch wide, but it was dark. We considered this to be a case of nervous vomiting, and treated her accordingly with the result that she rapidly got well.

The observer must not expect to see lighter or darker spots in the C. C. band over all painful or tender places of which a patient complains. A fair proportion are invisible. Some of the discolored patches are so plainly marked that a very cursory glance will detect them, while others differ from the rest of the C. C. band so slightly that a keen sight and a trained eye are required to see them.

It is difficult to understand why some local disturbances should cause a sufficient change in the Aura to produce a chromatic alteration, while others apparently similar in every respect give negative results. Intensity of the disturbance, is certainly not one of the chief factors productive of auric change. It is instructive to note that these light and dark spots in the C. C. band when projected upon the spinal column are extremely rare among males, and most nu-

merous among hysterical, nervous or excitable girls and women.

Directly the inspection of the vertical C. C. band has been concluded, and after having thus ascertained as far as possible the position of any local abnormality, the transverse band will supplement all the information that can be gained by this method of the use of bands. It will have enabled the observer to examine the two sides of the body, and at the same time to notice whether one of its extensions has been affected. Generally the band will be found to be wide enough to include all the affected area, but occasionally two observations will be required. This stage of the inspection is the one at which to determine whether the discolored patch is spread over the whole breadth of the body, or only over a portion; also to determine whether it is situated on one side of the median line, or crosses it; or whether it is only a small spot surrounded by the unaltered C. C. band. When a large area is chronically affected, it usually has a deeper hue, but exceptions are not rare. For example see Case 21. Although any part of the body may have a large patch of

altered C. C., yet this is met with more frequency in certain positions than in others. A common situation is the hypochondriac with half the epigastric regions. The following case is a very good illustration of the above remark.

CASE 32.—A childless woman, aged thirty, who has been married some years. She has suffered for over twelve months from pain in the stomach, which is increased after a meal and often is only relieved by vomiting. She is constantly sick, suffers from pyrosis, but never has had any hæmatemesis. The dread of pain prevents her from taking proper food, consequently she has become emaciated, weak, and anæmic.

From these and other symptoms we thought there was an ulcer of the stomach, but under treatment she gradually improved and became convalescent. When she was examined in April, 1909, it was found that her Aura was blue and there was no abnormality in shape, except that it was rather small. Around her head it was a little smaller in width than her shoulders, and as she stood facing the observer, below the arms, with her hands placed behind

her head, it was eight inches wide by the side of the trunk, coming down to about the middle of the thighs before it permanently narrowed to about two and a half inches. From thence it proceeded downwards without alteration. When she turned sideways the Aura was seen to be about three inches in extent down the body and limbs. At the back it was a little over two inches wide when level with the spine of the scapula, and the same width at the most prominent part of the nates, whence it continued downwards unaltered. Between the shoulders and the buttocks there was a slight bulge extending to five inches at its widest part. Rays emanated from different parts of the body being brighter than the rest of the Aura. There were two from the shoulders, one on each side proceeding upwards by the side of the head, one from each flank going upwards and outwards, and on the right side another downwards. All these rays were visible as she stood facing us, but upon her turning sideways another ray was seen projecting from the lower lumbar vertebræ upwards and outwards.

When the C. C. band was thrown upon her

back nothing abnormal could be seen, as there were no spots of a lighter or darker shade visible. When this band was employed vertically upon the thorax and abdomen, there appeared a darker shade, commencing gradually about half way between the umbilicus and pubes. There was also another patch upon the epigastrium. As soon as this band was used transversely, it was seen that this last patch had its upper margin at the sterno-xiphoid plane, the lower about two inches above the umbilicus, and the inner border was the median line of the body, making a rectangular space from the median line to the side as far as could be seen. This was several shades darker than the remainder of the C. C. band. The extensions beyond the body, as might be expected, were dissimilar, the left being much darker than the right.

Unfortunately, after being apparently well for several months, she had in January, 1910, a relapse, and as she could not be properly attended to at home, she was sent to a hospital for treatment of ulcer of the stomach. She came out having lost all pain, and was able to

eat solid food without discomfort. She was a second time inspected in March, 1910. The Outer Aura remained the same as described above, while the Inner Aura was seen to be about two inches all round her body. As she stood facing the observer, the Inner Aura was lineated on the right side, but on the left from the level of the nipples to the crest of the ilium it was coarsely granulated, and when she turned sideways the granules were seen all over the left side of the thorax and abdomen between the same levels. When the C. C. band was employed upon this part of the body transversely, the large patch could be plainly seen, but was, perhaps, not quite as marked as it had been previously. There was a slight alteration in the shape, the lower margin, from the median line curved outwards following the curve of the costal cartilages. The left extension still remained darker than the right. Two patches of altered colour were visible on the back, one by the right side of the third and fourth dorsal vertebræ. Here she had had pain, but not latterly.

The other spot was on the second and third

lumbar vertebræ. Here she always has discomfort during her menstrual periods. This is a fairly typical case as regards the shape of the discolored portion of the Aura. It seems curious that the part of the Aura having an altered tint should be rectangular, and have the margin so straight. Several similar instances have been seen. Occasionally, however, there is a variation consisting either of an irregularity of the edges, or else that the margins follow the outline of the stomach.

It would be superfluous to enter into details of the case of an unmarried woman twenty-nine years of age, who was brought by Dr. Merrick, as it is so similar to the preceding case. It may be remarked, however, that when she was examined by means of the C. C. band the area that seemed to be affected was almost identical with that of the previous case; but there was one very important difference, inasmuch as the colour was lighter, instead of darker, than the remainder of the band. Based upon our former statement that the light coloured patches were usually temporary, we gave as our opinion that this patient's ailment was only a slight

one, and were pleased that our diagnosis turned out to be correct. A word of explanation is necessary. We had intentionally not investigated the case in the ordinary manner, as this had been done by Dr. Merrick, and it was looked upon more or less as a test case for corroboration by observation on auric changes.

Here we have two instructive cases in which the C. C. band gave diametrically opposite coloration, although the point of observation was in exactly the same part of the body. The reason for this difference is certainly difficult to ascertain, but it must be surmised that some alteration existed in the Auras of the two patients too subtle for ordinary perception, yet which was able to influence the C. C. band, and the only suggestion we can offer is that the change was a colour such as is explained in Chapter IV.

In the latter case, whatever the ailment may have been, there was in all probability a strong nervous element at work and very likely the derangement was entirely *functional*. In the former case there was chronic gastritis with its corresponding changes of tissue.

Another case interesting for comparison with these two is that of a young lady not quite twenty years of age. She was slightly anæmic, suffered from constant sickness, vomiting her food very soon after meals; also had pyrosis. She believed herself to be about a month pregnant, which unfortunately proved to be correct. When examined by the transverse C. C. band there was no alteration of colour in either the epigastric or hypochondriac regions. This indicated that a structural change of the stomach was unlikely. When the band was employed vertically, the colour on the lower part of the abdomen was unaltered. This was what might be expected either in a woman half way between her two monthly periods, or one suffering from amenorrhœa, or again one who was in the early stage of pregnancy. When her back was examined in the same way, the C. C. band used vertically was found to be uniform the whole way down. This fact will be referred to later on. As the lady was a foreigner she returned home directly she was certain of pregnancy.

Instead of the discoloration being on the left side, it may be found over the right hypochon-

drium. Here alteration in shade may be either too light or too dark. The patch in this position has more frequently than not, as its inner margin, the median line of the body. Its upper edge is level with the sterno-xiphoid plane, while its lower is about the level of the costal plane. These boundaries are only approximate and the variations from these are frequent. When the discolored patch is seen in this position, it invariably betokens tenderness of the liver, often associated with superficial hyperæsthesia. Generally there is more or less derangement of the alimentary canal beyond the stomach, and in two cases we strongly suspected duodenal ulcer.

Another place where it is very common to find discolorations either light or dark, more often the latter, is in one of the groins.

Strange to say we have only seen it once in both groins at the same time. The colour changes may be very slight and barely visible, or they may be considerable and easily seen. The margins are rarely sharp in outline, and generally shade off, very gradually into the main colour of the band. The patches indicate

that the patient has tenderness and often pain in these regions, while the darker the hue the more intense the pain is likely to have been. It must be borne in mind, that tenderness in the groin is not always accompanied by change of colour in the C. C. band. Also, it is not common for these patches to appear without the patient having alterations in the Aura in other parts. For example we must refer our readers to Cases 34 and 13.

Instead of these large discolored areas, only small ones may be visible. In this case the patches commonly indicate that the affection causing the alteration of the tint in the Aura is entirely local, and often reveal the situation where there is pain, which may be accompanied by tenderness.

One striking instance of the accuracy of the foregoing observation is seen in the following incident. Dr. Merrick wished to see the Aura in this case and brought his patient for examination. Knowing that the patient was suffering from ulcer of the stomach, we stated that it was extremely probable that either the most painful spot or the position of the ulcer could

be detected by means of the C. C. band. No question of any sort was asked. Dr. Merrick was able to see the Aura quite plainly, but not the discolored spot, as he was not accustomed to the use of the C. C. band, and consequently was not able to keep it on the right place, for practice is required to keep the coloured band on a limited area.

CASE 33.—T., a married woman, thirty years of age, has been suffering from ulcer of the stomach for a long time. She has already been in a hospital and was advised to re-enter, so that she might undergo an operation, being greatly emaciated and anæmic in consequence of constant vomiting and hæmatemesis. Inspection showed her Aura to be well marked, of a bluish grey colour without any admixture of abnormality. The C. C. band, as it commenced fading, made a visible yellow spot, a little larger than a shilling, on the left side about two and a half inches from the median line, a little below the level of the ensiform cartilage. This coincided with the most tender and painful spot, so tender a place that the patient would hardly allow it to be touched.

The whole of the epigastrium was very sensitive, but not nearly to the same extent. Further examination could not be made.

This case presents two features worthy of notice. The first is that the spot did not merely take a different shade of the C. C. band, but completely changed its colour. Whatever its origin may have been, we look upon it as an example of a coloured ray emanating from the body (see Chapter IV). The second, that there was no large discolored area, as might have been expected. In March, 1910, she was again inspected. She had not been to a hospital as advised, but had improved greatly, having gained flesh, but still remained anæmic. She now has very little pain and only slight tenderness in the epigastrium, vomiting has ceased, although she takes ordinary solid food. There has been no return of hæmatemesis for over a year.

Still, she complains of pain in the lower part of the right hypochondrium, where also there is tenderness. As she stood facing the observer her Outer Aura extended nine inches around her head, and when her arms were up-

raised, the same distance by the side of the trunk, it gradually narrowed until it had reached its least width of four inches, at quite the lower part of the thighs whence it continued downwards a uniform breadth. The Inner Aura was two and a half inches wide all over the body. When examined through a dark carmine screen from about the level of the nipple, as far down as the crest of the ilium on the left side, this Aura was granular, very coarse, and, if she stood sideways, the granules could be seen occupying the same space on the thorax which looked light when the C. C. band was thrown upon it. There was besides a granular patch of the Aura on the lower part of the right hypochondrium. As soon as the patient turned sideways, it was seen that the Aura extended four inches all down the front of the body, and in the widest part at the back seven inches. The C. C. band showed a lighter patch on the left side of the thorax, commencing at the median line of the body, the upper edge being on the level of the nipples, while the lower margin followed the outline of the costal cartilages. In this light space there was an

even still lighter one, exactly coinciding with the yellow spot seen at her first inspection. Also there was a small patch on the right, just where the Aura was granular.

The following is another instance of the small discolored patch being observed exactly on the place where a pain existed, on a lady who complained of pain in the right mamma. (This was found to be malignant and subsequently removed.) During the examination she said she felt a pain in the back, but did not say in what part. When she turned round the C. C. band immediately showed a light, almost circular spot about the size of a shilling over the lower angle of the scapula on the left side. It was here, and nowhere else, that the pain existed. Because this spot was light in colour, a prognosis was given to the effect that judging by the colour of this patch, the pain would not remain long. In a few days this pain quite disappeared. Nothing further will be said about the appearance of the C. C. band upon the right breast as we have not seen sufficient cases from which to draw any conclusions, and this was a complicated one.

During the consideration of the shape of the Aura in ill health, it was remarked that in cases of hysteria, the Outer Aura took a characteristic form, very different from what is found among non-neurotic people, while at the same time the Inner Aura remained unchanged. From its great constancy this peculiarly shaped Aura may be taken as a *prima facie* evidence of this protean malady. With the C. C. band the chief alterations disclosed are discolored areas in different parts of the body, more commonly light than dark, and transitory. Exception must be made of the three places mentioned below. In every case of hysteria examined we have found a discolored patch on one or more of the following places—the groin (usually the left), the sacrum, the spinal column near the lower dorsal vertebræ. These spots are generally darker than the main portion of the C. C. band, but are by no means diagnostic of hysteria, as they are constantly found upon other patients. The most frequent localities of the light coloured patches are in front of the abdomen and the lower part of the thorax, and at the back on any part of the spine, also near,

but not touching it. If in the latter situation, they are invariably unilateral. In brief it may be said that while the C. C. band can impart a good deal of information about a case, it does not show any diagnostic mark of hysteria. Moreover, this band sometimes gives rise to no change whatever, when a predication of a marked alteration would seemingly be a certainty. The following case is a typical instance of the hysterical Aura.

CASE 34.—C., aged twenty-six, a married woman with three children. She has been delicate all her life, and before marriage was considered hysterical by her family. In August, 1909, she was thin, anæmic, very nervous and weak, and in a few days' time was to enter a convalescent home. Her Aura was well marked, being of a blue tint with a little grey. As she stood facing the observer, the Aura was about nine inches in width around her head and by the side of the trunk.

It contracted sharply a short distance below the level of the pubes and there was not more than two inches in breadth downwards. There were faint rays proceeding upwards from each

shoulder; also one slanting upwards and outwards from the left side at the waist, while on the right side there was a light patch running parallel with the body. When she turned sideways, the Aura in front was about two and a half inches wide, but contracted to two down the limbs. At the back it was two inches wide by the shoulders, bulging out to five at the small of the back, and then narrowing to two at the most prominent part of the nates, from whence it continued downwards unchanged. There was a very distinct, but curious ray emanating apparently from the umbilicus, proceeding upwards and outwards. This traversed the whole of the visible Aura and was lost in space, being at least nine inches in length.

When she was examined in front by means of the C. C. band, the colour was even throughout until it reached half way between the umbilicus and pubes, where it became darker as it proceeded downwards. This deepening of the colour was due to the fact that her menstrual period was at hand. When the band was used transversely, there was a darker patch over the left iliac region, commencing about an inch

from the median line of the body. No other place in front showed any colour change. The extension on the right side at the level of the waist was of the usual colour, while that on the left was darker and had a peculiar brown tinge (an impossible one to describe). There was, as might be expected, tenderness on the left side just over Poupart's ligament, and even greater tenderness on the corresponding part on the right side. This was curious, as the band did not show any corresponding abnormality.

When her back was inspected by means of the C. C. band, there were seen three distinct areas along the spinal column, having a lighter shade than the main part of the band. The upper one was over the seventh cervical vertebra, being about an inch in length, the second, about two inches long, was situated over the lower dorsal spines, while the third was over the sacrum, being about the same size. The spines of the dorsal vertebræ were tender, but not so sensitive as on either side. The sensitive part was exactly mapped out by the light patch as seen by the C. C. band. The spot on the sacrum was also tender, and the patient had

constant pain there. The mark on the cervical region was by far the most interesting; as the woman said, "she had no pain or tenderness at that place," whereupon her mother immediately exclaimed: "Why, that is where you are always complaining of pain!" The answer was that "she was free from pain and tenderness at the time, and thought that was what was wanted."

This case was seen at the time when we were trying experiments for separating the Outer from the Inner Aura, and had only partially succeeded. Had we made these observations at a little later period, the light patch on the right side lying parallel with the body would most likely have been proved to be a granular state of the Inner Aura (see page 220 and other cases). It is interesting to note that while the Aura by the sides of the body was quite typical of hysteria, yet at the back and the front it was not as broad in proportion as is generally seen in that complaint. There was more blue in the colour of the Aura than might have been expected.

Why the C. C. band should show a dark

patch over the left iliac region, where the pain and tenderness were less than on the right, while over the latter position there was no change of colour, is a question impossible to solve at present. However, the following is a likely explanation. The patient had had pain and tenderness in the left groin for a much longer time than in the right, so that a perceptible change has taken place in the Aura to make it lasting, while on the right side the tenderness had not existed sufficiently long. The main objection to this supposition is that a change of shade frequently appears even when the duration of the pain has been very short. The light area seen on the neck is an example of pain from a nervous origin, making an impression on the Aura more lasting than its own duration.

The hysterical Aura occurs in women and girls who are hyper-emotional, even when they have had no serious outbreak, so that it may, in most cases, be looked upon as a product of temperament, and thus when once possessed, is extremely unlikely at any time of life to assume the type seen around ordinary women.

It is quite reasonable to suppose that the Auras of neurasthenics would assume a form closely allied in character and shape to that perceived in hysteria. However, this does not seem to be the case with any one who has had a nervous breakdown from undue strain of mind upon body, if the case has shown no previous tendency to excessive emotion. In some, and, perhaps most of these instances, the Aura will retain its natural form. The next case is a very striking illustration of this.

Sometimes, however, this affection will produce an alteration of which case 21 is a very good example, where a lady had an uneven Outer Aura with no corresponding change of the Inner, either in size or shape.

CASE 35.—C. H., a young lady twenty-five years of age. When she was between eighteen and nineteen she commenced attending an invalid relative for eighteen months, during which time she had not a single undisturbed night, although she was working hard all day. The consequence was that, upon the death of her relation, she had a nervous breakdown and, from being an unusually bright girl, she be-

came dull. By nature she possessed an amiable disposition, but, fortunately, this part of her character did not alter. Outwardly she was a well-formed woman, but she had an undeveloped uterus, and had only menstruated three times in her life. She underwent some internal operation in the country, the nature of which could not be ascertained. All around her eyes the skin is deeply pigmented, of a dark violet hue, giving at a short distance the appearance of two black eyes. When we first saw her, she was suffering from functional hemiplegia on the right side, with almost entire loss of sensation from the clavicle downwards, and was only able to walk a few steps without the assistance of a stick. Under treatment she soon regained the use of her limbs, and sensation gradually became natural.

One peculiarity of her case was that the affected thigh was nearly two inches larger in circumference than the healthy one; the leg was also bigger, but not to the same extent. This enlargement disappeared within a few months after her recovery, when both her lower limbs were found to be symmetrical. A year

later she had a slight relapse, but it did not last long. During her illness she was always desirous of getting well, and did everything she could to help, and never showed any signs of undue craving for sympathy.

In January, 1909, she seemed quite well, with the exception of a little indigestion and slight mental sluggishness. She stated, however, that she had pain in the right side of the abdomen, and the lower part of the back. When inspected, she showed an Aura much larger than the average. It was well marked, the colour being a grey blue. It extended ten inches at the widest part, and came down from over the head to the lower third of the legs before it finally contracted, being almost egg-shaped. At her ankles it was about two inches wide. There were rays, two in number, proceeding from her waist at right angles, one on either side, but they did not reach the outer limit of the Aura. When she turned sideways, the Aura in front was about two and a half inches in width, narrowing very little down the thighs and legs. At the back it was two inches by the shoulders; in the lumbar regions it was four,

and reached the lower part of the thighs before it contracted to its full extent, being there two inches wide. Irregular pigmentation of the skin made the examination with the C. C. band almost useless. Still there could be seen two well-marked patches, one in front and one at the back. The former was a dark spot over the right hypochondriac region, having its upper margin level with the centre of the xiphoid cartilage, while the lower followed the outline of the costal cartilages. This place was tender. The patch on the back was on the last dorsal and the first lumbar vertebræ, which were also tender.

Another interesting shape of the Aura remains to be considered. It is one that might have almost been foreseen, and is characteristic of hemiplegia. Unfortunately we have only been able to inspect two or three cases, so cannot say very much about them, as it is extremely likely there may be many slight variations. However, the following is typical of those which have been examined.

CASE 36, Fig. 28.—B., a very tall, thin man,

fifty-six years of age, has been paralysed thirty-one years. The paralysis was a sequel to specific disease. His right arm is slightly affected, but he is able to carry on his employment as an upholsterer, though with difficulty, owing to this infirmity, which is increased by defective sight. His right leg is the limb most affected, and is smaller than the left, so that his walking power is limited. He is completely blind in one eye from neuritis, and the other is much impaired from the same cause. At the present time his general condition of health is good. He is married, and his children show no signs of hereditary taint.

He was first examined in 1908 and again in 1910. The two observations closely agreed, but in the latter the two Auras could be separated. As he stood facing the observer, the Inner Aura was the same width on the two sides, being about two and a half inches, but there was a great difference in texture, as on the left it was more distinctly lineated than on the right side of the body. At first sight it looked as if it were narrower on the latter, but that illusion arose from its being more dim. The Outer

COMPLEMENTARY COLOURS IN DISEASE



FIG. 28.—Aura of a man. Narrower on the left side of the head and on the right side of the body, than on the corresponding parts of the opposite side.

Aura was most affected on the right side of the head, where it was two inches wider than the shoulder, and on the left it was four inches narrower. When he placed his hands behind his neck this Aura was barely three and a half inches broad down the right side, against four on the left. The colour of the Aura was grey. With the C. C. band the hue was even, all over the body, and the extensions, with the exception of the one by the head on the right hand side, were many shades lighter than those on the left. We have hardly ever seen such a dissimilarity of colour on the two sides. In a case like this, we think that the variation in the Aura occurs not through the influence of the motor nerves, but is due to the trophic changes usually accompanying this complaint.

Since diseases of the chest form a large proportion of cases seen in every-day practice, it might be expected that they would offer a good field for the study of the Aura. It may seem strange when we say, that chest complaints have not assisted much in our investigations of the Aura. There are several reasons for this. One very important one is that, when a patient is

suffering from an acute illness, he would of necessity have to remain in bed. For obvious reasons, besides the difficulty of a background and the arrangement of light, etc., it would in most of these cases be inadvisable, if not absolutely improper, to trouble them with an investigation which of necessity must be prolonged and fatiguing, while in our present state of knowledge the benefits would be very problematical. Chronic cases, such as can be inspected with impunity, will show changes in the Aura, but none of these have any diagnostic value. Although the investigation of the Aura of these patients is very interesting, yet we have preferred to turn our attention to others, whom we thought more likely to give results which might be useful for diagnosis. The one aim of our research has been to utilise the Aura as a means of diagnosis. We shall, however, quote one or two cases which will give an idea of what changes are likely to be found. The following instance is very interesting.

CASE 37.—T., forty-three years of age, who is a married woman, complained that one day

as she was getting up while coughing, she brought up some bright blood. According to her account it was quite a teaspoonful. Although a very careful examination was made, we could not detect its organic origin. Two days afterwards her Aura was inspected prior to the usual examination by auscultation, etc. The Aura had the usual shape and size for a woman of her age, and showed no abnormality until the C. C. band was employed across her chest. A light spot, about the size of a florin on the left side, in the second intercostal space and about one inch from the sternum, was immediately seen. As soon as a stethoscope was placed over this spot, fine crepitation could be heard deep down, and we believe, whether rightly or wrongly, that this was the place from which the blood exuded. Even if we had not seen this light spot on the C. C. band, we do not think we should have missed this inflamed patch, and consider that this discoloured spot was due to a local inflammation, and that the C. C. band would not have shown any alteration, had it been employed two days previously, directly after the hæmoptysis. This

was the only part of the lung in which we could detect any disease.

Of all the chest complaints the one *par excellence*, in which the change of the Aura might be of assistance, is incipient phthisis, but at present we have not any distinctive case to bring forward, and in fact we have been disappointed with those that were examined. Of course, in bronchitis or emphysema, where the whole of the lungs is affected, merely local alterations of the Aura cannot be expected; but should there be any change in the Aura, it will take place all over the thorax equally, and any slight variation that may be present will be too faint for distinguishing.

The following case may be taken as a typical example, and shows how little can be learned at present from the state of the Aura in chest complaints.

CASE 38.—B. L., sixty years of age. She has suffered for years from asthma and emphysema with occasional bronchitis and has had two or three attacks of cellular pneumonia. When inspected there was nothing about the shape of the Aura that was unusual. But, at

the lower part of the thorax, the Inner Aura was finely granular, although coarse lineation could be seen. The left side was more affected than the right, but this was accounted for by the fact that she had quite lately been suffering from an attack of bronchitis which affected, as it always does with her, the left side more than the right.

The limitations of the Aura as a diagnostic agent are great and are increased by the want of knowledge of its origin, so that the whole of our work has been necessarily tentative, and reasoning has not helped us to forecast in what cases investigation of the Aura is likely to prove useful; nevertheless, hints may be obtained from the instances already quoted.

At present we do not know what tissues give rise to Auric forces, nor whether any or all have any control over them. One thing is absolutely certain, that the nervous system does exert a very great influence upon the Aura, and this is only what might be expected. One of the proofs of this is the power of the will upon the Aura. Already the circumstance of the prolongation or the shortening

of the rays emitted from the finger-tips by merely *willing* that this should be the case, has been mentioned, and can be demonstrated at any time. Mesmerists, who naturally have strong wills and who have devoted themselves to the development of this power to modify the Aura, by means of which they can influence other people by subjecting their will powers, are further evidence that *will* can and does control the Aura.

Temperament, or the sum total of the mental and physical powers of the individual, has already been noticed as a modifier of the Aura, and it is evident that this modification is more extensive when the mental powers of the subject are great. It is not merely the area of the Aura that is affected, but also its substance, as is illustrated by the Aura of dull people having more grey in its colour, with, at the same time, a corresponding coarseness. The alterations produced by the *will* and temperament are entirely physiological effects.

As will and mind are high attributes of the brain, and are able to influence the Aura as a whole, it may certainly be expected that any

derangement of the organ will modify the Aura in some way or another. Most likely a modification of the whole Aura takes place, but the changes are so refined in their nature as to be imperceptible to our senses; nevertheless, the more crude changes are capable of detection. The crude changes that are visible may be so strange that not even the most imaginative person could be likely to foresee them. For example, who could have conceived the hysterical Aura? And the more we contemplate, the more incomprehensible it seems. Among women the ovoid shape (Fig. 11) of the Outer Aura is evidently the highest form, and the more the Aura approximates to this shape the more perfect it is. The main peculiarity of the hysterical Aura lies in its being disproportionately wide by the sides of the trunk and in the lumbar regions at the back, and to the breadth down the thighs and legs. This Aura is, to use a botanical term, "Spatulate" when seen with the patient facing the observer.

We cannot tell how this shape has arisen, but surmise that there may have been arrested development below the trunk retaining the infan-

tile form, because that type, together with the adult female Aura around the head and body, will give the peculiar shape seen in hysteria. A further confirmation of this view is, the fact that the Aura bulges out at the lumbar regions, yet contracts at the same level as at the sides.

It is useless in our present state of knowledge to speculate why this peculiar configuration occurs in women who are hysterical. The only other practical question to be solved is whether the Aura, if it have a normal shape, can change to the above type? Personally we think it extremely unlikely, as we have never seen any case in a transitional state, nor one that would lead us to suppose that such a change might take place. One curious point is, that in cases where this form of Aura occurs, there has never as yet been seen any variation in shape or size of the Inner Aura, although there are often local changes of substance, perhaps in greater variety of situations than in any other single disease. In epilepsy quite a different alteration of the Aura is encountered.

Here, instead of the Outer being only or certainly the most affected (as in hysteria), both

the Outer and Inner Auras will be seen correspondingly modified, as they become diminished unilaterally, to a much greater extent by the side of the head than lower down. We cannot give any explanation why this diminution should take place, and are still more at fault why the left side is usually the one to be affected. We asked patients' friends whether during the attack one side was more affected than the other, or whether the head was turned to one side. If the convulsions were more severe on one side than the other, some light might be thrown upon the question. These questions did not produce any satisfactory answers, as, with one exception, all said they were too upset at the time to notice these symptoms. The mother of one girl said the child always showed more spasm on the right side.

We saw one of the patients in a fit, but neither side was more convulsed than the other, so that no assistance has been derived from this mode of inquiry.

When these alterations of the Aura are considered, they seem to confirm our previous suggestion that the *Forces originating the Outer*

and the Inner Auras are distinct, as the latter never seems to be deranged over a large space, without some variation of the former taking place; on the other hand the Outer may be altered while the Inner remains unchanged.

There is not the slightest doubt that the Aura is affected locally when there is some local disorder of the nerves, but whether the alteration is the direct outcome of the nerve disturbance (similarly to a functional derangement of an organ), or whether it is the affected organ that produces the change in the Aura, is at present uncertain. Most probably either may be the cause, and in many instances the two are jointly concerned. One fact stands out prominently, viz., that a local disturbance influences the Inner Aura with much greater frequency than it does the Outer, and when the latter is affected the former rarely escapes derangement. (Cases 23, 24, 25, are instances in which the outer Aura has become locally altered.) This is the reverse of what usually occurs when the whole or the greater part of the side is affected.

A case of neuralgia may be taken as an ex-

ample of the manner in which the nervous system primarily operates upon this Aura. Case 21 is a very good example. When seen late in 1909 it was noticed that the whole of the Inner Aura adjacent to the painful parts was altered, as it had lost all striation and had become coarsely granular in appearance. The Outer, too, showed signs of derangement, as the distal portion was less plainly seen than is usual, giving it the aspect of having lost part of its substance, as it might be otherwise stated, No. 2 Auric force was not so great as if healthy, but at the same time there was no alteration in its general character. If the force had been still less the Aura would have been seen smaller than normal. This was the condition of the Aura when first seen in 1908, and it is evident that in 1909 it was regaining its natural conditions.

In an acute case of neuralgia, a girl, thirteen years of age, had a spot at the level and two inches to the right of the third dorsal vertebra, where she had paroxysms of pain coming on suddenly and often lasting for hours. The most common time for its accession was at night, sometimes just before she went to bed

or soon after, and at either time the pain would awaken her. There was no tenderness over the place, and no cause could be found to account for it. It was very intractable to treatment for some weeks, but had improved a little when she developed appendicitis, and immediately the pain vanished and never returned. Her Aura was examined, and was found quite natural all over the body, with the exception of a small patch just over the painful spot which had become finely granular. It was only in the Inner Aura that any change could be discovered, as the patch of the Aura affected must have been very small. It would hardly be likely for the Outer Aura to show any change, since the surrounding healthy portion must have obscured any that did take place. In this instance the blue C. C. band showed a dark spot, while in the last case the affected Aura induced a lighter shade.

A man suffering from sciatica exhibited similar changes in the Aura down the whole of his thigh.

When a nervous derangement causes a local organic change of tissue, it is probable that the

modification which takes place in the adjacent Aura is due partly to the nervous element and partly to the diseased tissue, but it is next to impossible to decide the proportion dependent upon each. Herpes zoster is a very good example of these combined causes, producing a marked and interesting change in the Auras, but so much has already been said about these alterations that the reader is referred to Cases 24, 25 and 28.

As these cases show that the nervous system induces alterations in the Aura, both with and without a corresponding change in the local tissues, it may perhaps be thought that the modification may be entirely owing to the influence of the nervous system, and that the altered tissue has nothing to do with causing it. The only method of disproving this hypothesis is to find some instance where there is a change in the Aura that cannot be credited to the action of the nervous system. Fortunately we have three marked instances in which it is extremely unlikely that any nervous agency can be present. All these cases are tumours of the breast, two fibro-adenoids and the other cystic.

In none was there any pain, and they were only discovered by accident. In no case could any alteration of the Outer Aura be discovered, but each deranged the Inner Aura. One fibro-adenoid caused the Inner Aura to *assume the similitude* of a small ray not more than one and a half inches in length, being about slightly more than half the width of the Inner Aura, and this ray was finely granulated. When viewed with the blue C. C. band it exhibited itself as a spot lighter than the remaining portion of the band, especially as the colour was fading. With the yellow C. C. band this patch was darker.

The second fibro-adenoid instance was almost identical. The remaining case, too, was very similar, as only the Inner Aura was affected for its whole width, and the change consisted of a coarse granular state replacing the ordinary Aura just over the tumour. When this was examined by means of the C. C. bands the blue showed a light, and the yellow a dark patch.

From the above remarks it may be taken for granted, that although the nervous system has a very great, perhaps a predominant control

over the Auras, yet other tissues, when in an unhealthy state, do influence them as well. In connection with this subject it will be interesting to compare Case 33 with Case 31. In the former the patient had an ulcer of the stomach which caused the part of the C. C. band in front of it to be altered, besides causing a good space around it to be lighter in tint than the rest of the band. Also the Auras were coarsely granular in the gastric region. It must be noticed that there was no change in tint of the band near the dorsal vertebræ.

In the latter case, although the woman was suffering from constant vomiting, yet there was only a slight granular appearance of the Auras in the gastric region, and the C. C. band did not disclose any change of colour in the front of the body, but on the back there was a narrow streak lying close to the spinal column on the left side, from the third to the ninth dorsal vertebræ, which was decidedly lighter in colour than the remainder of the band and had sharply defined margins.

In the first of these cases, it looked as if the diseased organ was almost entirely the factor

producing the alteration in the Auras, while in the latter the deranged stomach only affected the Auras slightly, but the main change in the band was due to the nervous system.

Although it seems fairly certain that some diseased organs do produce a change of some kind in the Auras, yet there are instances in which we have looked for it without any success. Two or three cases of granular kidney have been inspected, but in none has any alteration of the Aura been detected. One of these patients had been afflicted with this complaint for many years, and inspection took place a short time before he became hemiplegic with a fatal result. It is possible that the reason why in these cases the Auras showed no alteration is that the depth of the superincumbent healthy tissue annulled the influence of the diseased organ, together with the fact that the change in the kidney is a degeneration of a passive rather than an active type.