

A CASE OF SYNAESTHESIA*

From the Psychological Laboratories of the University of Edinburgh

MARY COLLINS

The majority of reports on synaesthetic individuals are descriptive in character. The only warrant for adding another to the list is because of the extensiveness of the color associations of the case to be here described.

S has exceptionally strong imagery in all sense departments. She can image a sound, a taste, a smell, as vividly as if the actual sensations were experienced. In fact, sometimes the images become so intense that they give rise to hallucinations. *S* is able to answer affirmatively all the questions in Galton's questionnaire on imagery in his *Enquiries into Human Faculty*. Her brother can do likewise. She also has the power of eidetic imagery. Daydreams in childhood were mostly auditory, and, at the age of six, *S* used to send herself to sleep by telling herself stories aloud. Now her daydreams are composed of vision, touch, and hearing, and have a great deal of movement. *S*'s mother has very vivid mental images, and visions and hallucinations are very common in her father's family, but neither parent associates sounds or ideas with color as *S* does, nor does her brother possess this characteristic.

Color plays a very important part in *S*'s life, and she is always conscious of a colored background. She is never without this color background, which is part of herself, and she finds it difficult to imagine what other people's minds can be like devoid of this color. The color does not remain constant, but varies in regular manner according to the person spoken to, the conversation listened to, the music heard, or according to the task in which *S* is engaged. In listening to a lecture, for example, the topic of the lecture evokes a definite color; this color will form the background as long as *S* is interested in the lecture. If *S* changes her attention from lecture to lecturer, the color of the lecturer predominates. Different subjects call up differently colored backgrounds, and different persons cause different color to appear in the mind of *S*. For example, Chemistry is green, and while she is listening to lectures on Chemistry, green is

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the pervading color atmosphere. Anatomy is red, Ethics white, Metaphysics a nice grey; Psychology is white, but subjects in Psychology may have their own colors: Psychology of Suggestion would be brown.

People also have their own typical color and often scent attached to them. Individuals of no interest to *S*, or not well known to *S*, or of unimpressive personality, have no color. The colors of individuals are liable to change as *S* becomes better acquainted with them. Individuals may also become identified with flowers. Houses of friends all become associated with characteristic smells, which *S* finds impossible to analyze.

Books and authors are colored. *A Tale of Two Cities* is green; *Ben Hur* is fawn; Woodworth's *Psychology* is purple, probably because of the color of the cover in the British edition; Scott is grey; Masfield's poems are blue; Yeat's poems are bluish grey or greenish grey; Shaw is red. If *S*'s mental background is blue, then she must read appropriate books or poems or play appropriate music, that is, of the same color as her background. All music is colored for *S*, and if in listening to music there is no color, *S* does not enjoy it, which means that the music is too intricate for her to follow. The color in this case pervades the whole room or concert hall, and the natural colors around are subjectively repressed. Hebridean music is sea-blue. McDowall's music is red and is not stimulating to *S* but rather irritating. Bach and Beethoven are brown (*S*'s own color) and are most stimulating. The *Pathétique Sonata* is mostly brown but is green in one bit and yellow in the little humorous bars which end the main theme. *S* feels that Beethoven has felt the whole thing heavy and uses his sense of humor there. The color accompanying the music of the *Bluebird* (mainly Chopin's Waltzes) appears most appropriate—pale blues and greens. Grieg's music is colored green. His *Wedding and Processional* are "exactly the same green as the lamp-shade in the Psychology classroom with no light inside." Chaminade's pieces are "exactly the same green as the lamp-shade in the Psychology classroom with the light inside"—an interesting confirmation of the nicety with which colors must be described to be satisfactory for the colored thinker.

One octave up from middle C is blue, one octave up from G is green, one up from F is pink. Songs listened to are all colored, and remain the same color no matter who the singer may be. *S* always hears the song as it should be sung. A discordant note on the piano or in a song is colored magenta, a color to which *S* has a strong dislike. This color we shall see is associated with all things disagreeable, and the dislike of it seems to be inherited, as *S*'s father

also has a strong dislike to it. *S*, however, was unaware of this until lately.

Countries also have their own color. France is pink, Belgium yellow, Germany black, Scotland red, with tartan always in the background, England white, Ireland green, America strawish yellow.

Color associations have always been present in *S*'s mind, and she is always conscious of having experienced them. It is evident, however, that new associations are constantly being formed as her knowledge increases and her interests grow wider. There is undoubtedly a continual growth in the color associations. There is no intention of suggesting that there is deliberate searching for a color, for that is not the case. The color comes quite spontaneously, but if *S* is asked off-hand the color of such and such a thing, with which perhaps no color is yet associated, she may have to think about it, but she can very readily reject a color suggested by a second person as being quite incongruous.

If we now systematize our data and group them under the various sense departments, we get the following results:

Taste:

All tastes are colored, and colored very vividly.

Sweet tastes are pink.

Acid tastes are green.

Salt tastes are blue.

Bitter tastes are magenta.

Curry tastes yellow (evidently due to original color); orange also tastes yellow, but a different shade (again due to color of object). This taste photism exists in anything tasting of orange, no matter what its color, and so with the others.

Odors:

Horrible sharp odors are magenta.

An unpleasant odor like putrefaction is brown.

Pleasant odors vary, and the colors they evoke are much more difficult to explain.

Lavender is colored pale straw yellow, and not lavender as one might suppose. (*S* thinks this may be due to Yardley's yellow cartons.)

Eau-de-cologne is green and associated with old people. *S* was always given eau-de-cologne as a child when going to parties.

Peppermint is white (a natural association).

Iodine is dark bluish green (*S* cannot explain why.)

Carbolic acid is brilliant yellow.

Rose is black. (*S* thinks only very dark people should use this perfume.)

Cutaneous Sensations:

a) Temperature sensations:

Cold is white.

Heat is red.

Normal is yellow.

b) Touch has no color.

c) Pain has only one color sensation, namely, toothache, which is green.

Kinaesthetic Sensations:

No colors are associated with kinaesthetic sensations except in classical dancing, and then not the movement but rather the visual image of the poise is colored. For example, the Greek poise of terror is black; of despair, brown; of prayer, blue; and of soaring up, white. This last is kinaesthetic more than visual, and is accompanied by sensations from the glands and the muscles.

Organic Sensations:

Hunger is green. Thirst has no color, but is connected with the idea of water.

Higher Senses:

We have already considered in part the rôle of synaesthesia in the higher senses of our subject. The usual association in synaesthetic individuals appears to be between sound and color. The sound of a word produces that word as a visual image in space in front of *S*, and the visual image is colored. In the present case the association is much more elaborate. Any one word or even letter may give rise to *three* different sets of colors.

The colors vary according to whether *S* is thinking of

a) the look of the word or letter, that is, visual stimulus or image.

b) the sound of the word or letter, that is, auditory stimulus or image.

c) the idea of the word or letter.

Example: the consonant *B*.

Look of *B* is blue (because of liquid roundness of loops making the letter).

Sound of *B* is white (due to vowel *e*, which is white).

Idea of *B* is blue (is associated with name Betty and a childhood experience).

Sometimes only two colors are associated.

Example: word *Bus*.

Look of *Bus* gives rise to a visual image uncolored.

Sound of *Bus* is brown.

Idea of *Bus* is fawn.

Example: word *Bud*.

Look of *Bud* uncolored visual image.

Sound of *Bud* either real or imaged is brown.

Idea of *Bud* is pink (due to rose-bud).

In the case of vision, the word itself appears as an uncolored visual image: the associated color occurs within the individual, and permeates her whole body as a color atmosphere or a "color vapor." A colored sound is different, for the sound itself is colored, and may be outside *S*, in addition to creating an atmosphere within.

Most words take their characteristic color from the vowels they contain, for consonants as consonants have no color. Although *S* has a complete color alphabet, the colors of the consonants are for their names, and not for their sounds, e. g., *C* is blue, but *C* as a consonant has no color.

A series of words like *but*, *bus*, *bun*, *bud*, are accompanied by no color until sounded, and then are immediately brown, because the vowel *u* is brown, that is, the consonants have no influence in determining the color. The sound of the word in inner speech

TABLE 1

COLORS OF ALPHABET			
<i>A</i>	straw	<i>J</i>	straw
<i>B</i>	blue	<i>K</i>	straw
<i>C</i>	blue	<i>L</i>	yellow
<i>D</i>	black	<i>M</i>	rose
<i>E</i>	white	<i>N</i>	pink
<i>F</i>	pink	<i>O</i>	black
<i>G</i>	green	<i>P</i>	white
<i>H</i>	auburn	<i>Q</i>	indefinite
<i>I</i>	blue	<i>R</i>	indefinite
		<i>S</i>	indefinite
		<i>T</i>	white
		<i>U</i>	brown (light)
		<i>V</i>	violet
		<i>W</i>	water (<i>W</i> = bubbling brook)
		<i>X</i>	white
		<i>Y</i>	grey
		<i>Z</i>	queer yellow brown (striped)
VOWELS			
<i>a</i> (as in <i>hay</i>)	straw color	<i>i</i> (<i>in</i>)	lavender
<i>a</i> (<i>ah</i>)	deep red	<i>i</i> (<i>height</i>)	bright blue
<i>a</i> (<i>pan</i>)	brown	<i>o</i>	black—the longer the <i>o</i> the blacker
<i>e</i> (<i>keen</i>)	white	<i>oo</i> ("oona")	pale peat smoke blue
<i>e</i> (<i>den</i>)	pale straw or often color of water		
	<i>au</i>	brown	
	<i>ae</i>	yellow	
	<i>ai</i>	deep yellow	
	<i>ou</i>	nut brown	

is almost simultaneous with its visual appearance, and it is only when *S* deliberately holds back the sound that this phenomenon appears. This came out very clearly in an experiment to be described presently.

Table 1 shows *S*'s color alphabet. These colors were written down by *S* two years ago, and a second communication given at the time of writing this article shows them to have remained unaltered. Only three are indefinite, *Q*, *R*, and *S*. It will be noticed that the vowels vary according to their sound. The look of *A* is scarlet, because of its sharp angles; the look of *a* has no color.

TABLE 2

DAYS OF WEEK	
Monday	Pale pearly grey (sometimes silver)
Tuesday	Prussian blue
Wednesday	Light yellow (associated with yellow pansy)
Thursday	Brownish orange (associated with bronze chrysanthemum)
Friday	Bright bottle green (a jade tinge)
Saturday	Pillar box red (Saturdays in past are crimson; Saturdays in future are navy blue)
Sunday	Pale but brilliant gold
MONTHS OF YEAR	
January	Pearly grey (cold)
February	Deeper tone of same (cold)
March	Sometimes brown (chocolate)—sometimes indefinite green (green when connected with thoughts of wind—although wind is not green)
April	Daffodil leaf green
May	Pink (not nice pink—rather magenta in tone, i. e., harsh)
June	Rose pink (coolness)
July	Warm foxy brown (heat)
August	Brownish sand color
September	Wheat color
October	Dark nut brown
November	Dusky grey
December	Grey with white and scarlet patches

Table 2 shows the colors associated with the days of the week and months of the year. The colors of the days of the week are the most vivid of all *S*'s colors, and the same colors have been connected with them since childhood. *S* can give little explanation of them except for Thursday—"the 'urs' curls round like chrysanthemum petals." *Vendredi*, however, is jade green.

In the months of the year, the associated colors are more what

the idea of the month means for *S*. It will be noted that March has two colors associated with it, sometimes brown, sometimes indefinite green, when connected with thoughts of wind. The curious thing is that wind itself is not green but is blue-grey, although the sound it makes and the feel of it on *S* is white, because it is cool and exhilarating. December is grey with white and scarlet patches. These patches represent Christmas. New Year's Day is white. Hallowe'en is red. The 1st of August is brown. Birthdays are colored from the color of the number, e.g., 9 is blue, 8 is golden brown, etc.

In addition to having color associations with days of the week and months of the year, *S* visualizes them in space arranged in a particular shape or form. It would seem that all her thinking must be made concrete and translated into visual imagery. Figure 1 shows the form the days of the week assume. Note the two different standpoints. If the day is not a Friday or a Saturday, *S*

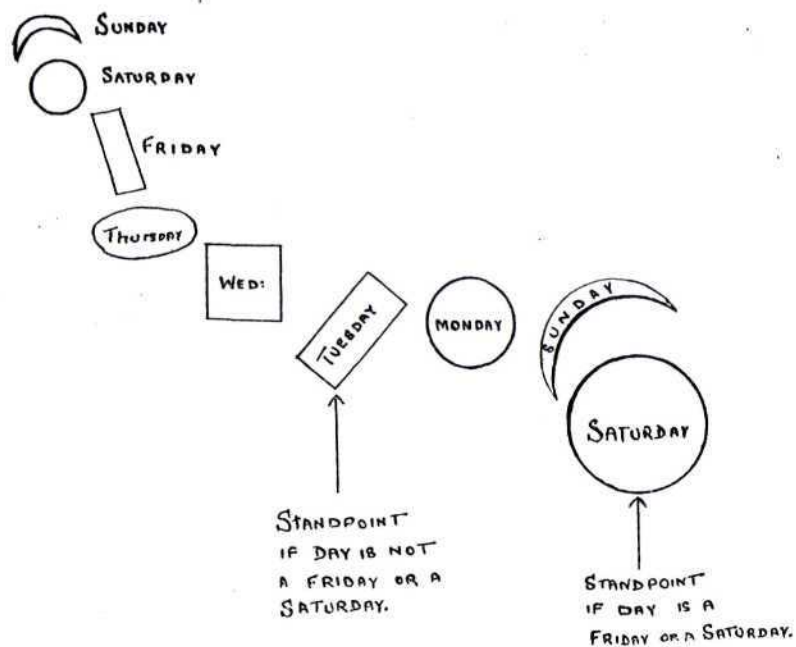


FIGURE 1
A WEEK

is at Tuesday, not definitely facing Tuesday but facing the whole week from this direction. In this case the first Saturday is omitted. If the day is a Friday or a Saturday the standpoint is at Saturday. This is the only occasion when Saturday is the biggest day and the largest circle.

The visualization of a number of weeks appears as a straight line of waves for a whole year, each wave representing a week. The figure is seen on a plane below and in front of *S* as if she herself were not living in the middle of time.



FIGURE 2
MONTHS OF YEAR

Figure 2 shows the form for the months of the year. This form shows the limits of *S*'s thinking in months. After May next year it is a straight line upwards to the next December, and "I can think no further in months, only years." After October of last year, it is a straight line going back in time to December of last year, and "I can think no further in months, only in years." This diagram on the months is seen on a plane below and in front of *S*, as in the form for the weeks. *S* cannot think in weeks and months together, except theoretically with no picture, for more than one month. The colors for the months are not present, but the winter is dull greyish, and the summer brighter, a haze of faint color. August stands out as the usual summer holiday month.

For months looking ahead and back the form is exactly the same as for the weeks, a series of equal waves.

A month is thought of as divided into week-ends, and the week-ends are always thought of as falling on the 7th, 14th, etc., although *S* realizes that this is not always the case. (Vide Figure 4.)

Figure 3 shows the form for days of the week looking ahead and looking back into time. In looking ahead the perspective is out into space, not upwards. The form is as much as *S* can grasp and realize at once. To think of days further ahead, *S* has to resort to other diagrams. Looking back in time the perspective is out into

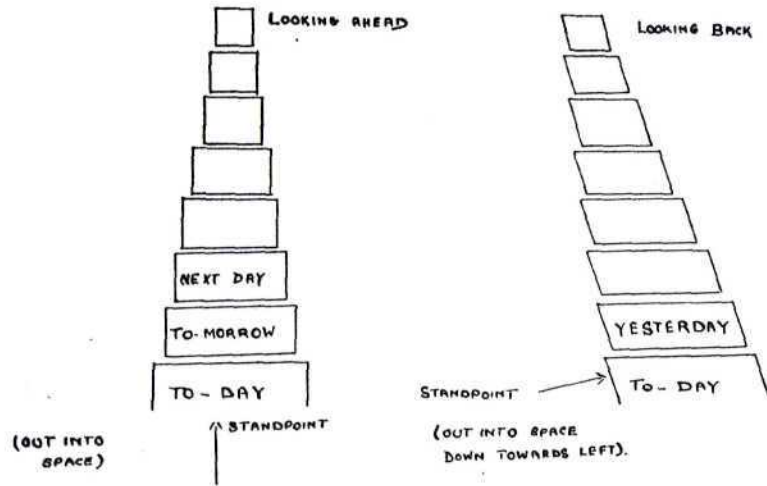


FIGURE 3
DAYS OF WEEK

space and downwards towards the left. Here again there is as much as *S* can realize.

Figure 4 shows *S*'s general form for time. From the present, the past goes at an angle of 45 degrees downhill over the left shoulder. In the future the year 2000 stands out and then the form goes uphill in front and to the right of *S* at an angle of 45 degrees. The last part of the diagram is general imagination of the past. The diagram is different when *S* is thinking of the past history of different nations.

Figure 5 shows one of the forms for past history, that connected with Jewish history. The upper form shows the childhood idea, the lower one the form in use now. *S* has different forms for different nationalities. The form for French history is a spiral whose center is at Paris with the French Revolution at the center. *S* is looking down on the spiral.

Figure 6 shows *S*'s number form. Two years ago this number form was changing, and both are shown in the figure, (1) and (2), the old and the new. Diagram 3 is common to both forms, and *S* finds no difficulty in the fact that 99 of (2) faces in a different direction from 100 of (3).

The fourth diagram is used in thinking financially. In adding and subtracting money, *S* thinks in twelves and twenties going upwards in a straight line on a vertical plane before her eyes.

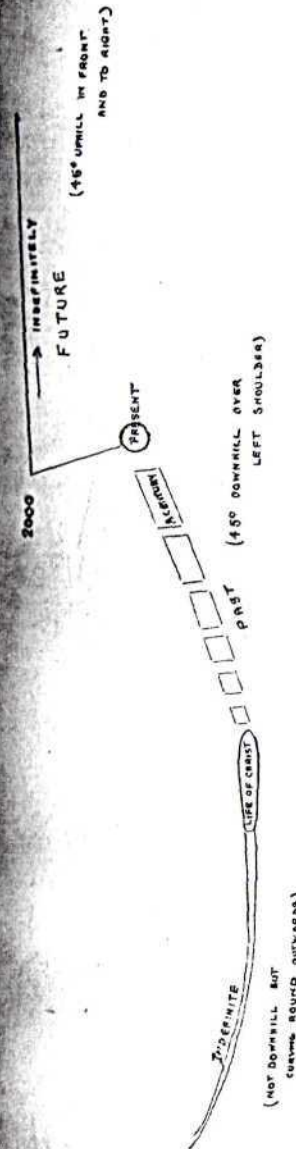


FIGURE 4
TIME

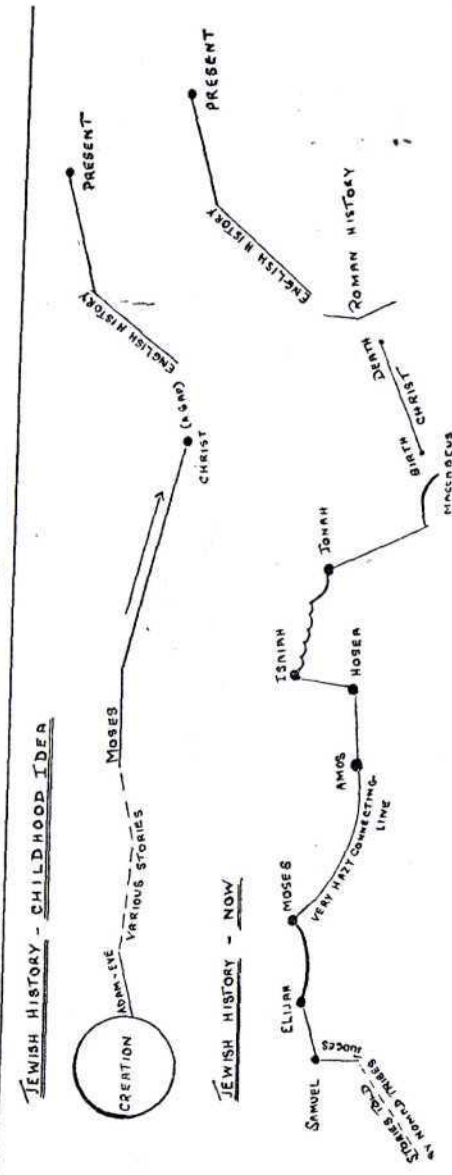


FIGURE 5
"TIME IN THE PAST" FORMS

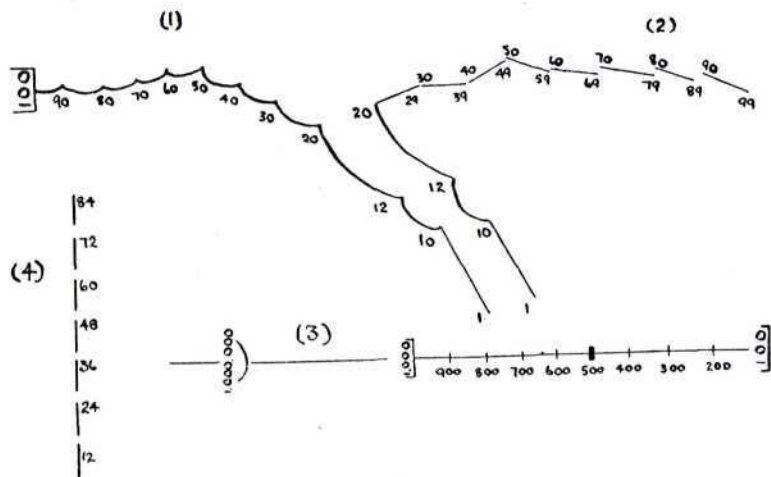


FIGURE 6
NUMBER FORMS

In all adding and subtracting, the number form is used. But in multiplying and dividing, *S* voluntarily banishes the forms from her mind. At the present time the number form has again changed, is much simpler in character, and includes negative numbers. The number 500 has now a conspicuous place because of 500 cc. in chemistry, a subject which *S* is at present studying.

The number form as a whole is uncolored, but any part of it in use is colored, that is, sections thought of separately are colored, though not very vividly.

Although the number form is not colored, each number has a color of its own, which appears when the number is thought of separately.

- 1 straw colored
- 2 blue of the sea
- 3 pale yellow
- 4 wallflower reddish brown
- 5 deep pansy yellow
- 6 white
- 7 bottle green (same idea as Friday)
- 8 brownish orange (same idea as Thursday, the two are connected in *S*'s mind)
- 9 Prussian blue (and Tuesday)

10 black. 10 is the same as the vowel *o*, a very vivid black. 10 is connected with ivy, and also makes *S* think of death and old-fashioned things. Her grandparents and aunts lived in a house, number 10.

11 not so dense a black

12-19 not colored (mere figures in space just outside *S*'s head)

20-29 not colored

30-39 yellowish color

40-49 reddish color

50-59 orange

60-69 white and water

70 onwards not colored, the only exception being 150 (same orange as 50, also 500).

S and her brother are both afraid of certain numbers, although not the same ones. *S* finds it very difficult not to consider 2, 4, and 13 unlucky, and 11 and 9 very lucky.

From the foregoing description of this case, it is undoubted that the synaesthesia or the psychochromaesthesia, as some prefer to term it, is very extensive. Not only in the waking life of the individual does color play an important part, but in the dream life the colors are equally vivid. It is difficult to summarize or to draw conclusions from such varied yet regular data, but to get any understanding of the phenomena an attempt must be made.

1) It seems possible to conclude, although we have only one case under consideration, that synaesthetic individuals must possess good powers of imagery. It is undoubted that in this case the imagery in all sense departments is extraordinarily vivid. As already indicated, *S* possesses in addition eidetic imagery. In embroidery or in wood painting, *S* very rarely draws the design. She can picture the design so vividly that it is virtually on the cloth or on the wood. Any image can be projected on an external object. If it is a very intricate drawing, *S* can project it very clearly on a paper in front of her, so clearly that it would seem that all she has to do is to run the pencil along the lines of what she sees. This is not always satisfactory, for often on concentrating on the part where the pencil is, she momentarily loses the whole picture. Many of the forms, those for the days of the week, the months, time, etc., are nothing but examples of concrete visual imagery. Many people have this tendency incipiently.

2) Although the origin of many of the colors associated with words, objects, individuals, etc., cannot be traced, others are clearly due to associations. Saturday, at one time colored red, was for a time navy blue. This is the color of the Guide uniform, and the Guides to which *S* belonged met on Saturdays. Saturday is

now red again, because of the vowel *a* in Saturday. Fairies in childhood were colored pink and sky blue, but are now green and grey owing to reading people like Yeats and Fiona McLeod. *S*'s automobile, in reality fawn colored, is always thought of as red, because the first car of this make seen by *S* was red. The color of one individual is pink because when she was six years old he washed her hands with rose soap. Other examples could be multiplied. The association of object and color is in many cases a purely extraneous one, due to accidental circumstances.

3) Psychochromes change in some cases. This is due to added experiences. Others, such as the colored alphabet, remain unaltered.

4) Many color associations follow regular rules. The associated colors are due mainly to the influence of the vowel sound. Saturday is red, because of the *a*; dog is black because of the *o*.

5) To a certain extent, the results from this *S* agree with those reported by Wheeler and Cutsforth in recent numbers of the *American Journal of Psychology* and the *Journal of Experimental Psychology* as regards the place of color in the mental life of synaesthetic individuals. Their main conclusions are that the associated color does not play a secondary rôle, but is an essential part of the mental equipment of the individual. That is, the so-called secondary process is essential rather than incidental in the mental life of the synaesthetic individual.

S writes in support of this: "Days of the week, people that I know, many names, all scents, and all tastes that are colored never change their color, and I cannot think of these apart from their color," and again, "I use colors very largely in remembering facts, and I group facts and names, for example, of parts of the body which are 'like' each other, the likeness consisting in a hazy color background."

These statements were clearly confirmed in the results obtained from two experiments after Wheeler and Cutsforth.

In the first experiment *S* sat with closed eyes, and letters cut out of glass paper and mounted were placed successively before her. *S* had to identify the letters by touch and introspect. No color appeared until the letter was recognized and whenever the letter was identified, the color simultaneously was evoked. The tactual stimulus and recognition of the letter called forth a visual image in space followed after an almost imperceptible interval by the name of the letter. For example, when *A* was the letter, *S* while tracing it exclaimed, "That's red,"—the shape was sufficient in this case. When the name of the letter came into consciousness, a straw color was its accompaniment.

With some letters there was no color until the letter was identified

by name. This was brought to light by *S*'s deliberately trying to repress the name.

The second experiment was to learn a series of 10 nonsense syllables which were presented to *S* successively with a regular interval between each two. The strip of paper containing the nonsense syllables was fastened on a rotating cylinder whose rate was constant. The learning and saving method was used.

After the first presentation of the series, *S* could remember that some of the syllables were black, some red, some white, and some grey, the syllables with *o* being black, with *a* red, with *e* white, with *i* grey. Two black ones were remembered, two red ones, and one grey one. Only much later did *S* notice one with *u* as brown. The syllables were grouped in this way in succeeding repetitions. When *S* was reminded that she would have to produce them in the order given, she had to break up this grouping and try to hold syllables back to fit them into their proper position. All the syllables were visualized as on a straight vertical line, with colors standing out; *o* as black was the most vivid, red was also vivid, white and grey were not so vivid, and brown was not vivid at all. An unusual case was the word *loy*, which appeared black with purple in it, and which remained unobserved by *S* until near the end of the learning.

One interesting feature showing the strong visualizing powers of *S* was that, at the fifth presentation, *S* started at the foot of the list and worked up. It was as easy to do as starting at the top.

S declared that she could not have learned the series without colors. If the vowels had been left out, she perhaps could have laboriously learned them by mechanical repetition and sound.

A further experiment in learning was carried out by giving *S* nonsense syllables as before, but having the syllables painted this time in colors different from those with which *S* would associate them. The result was interesting. The colors actually presented were ignored, and *S* saw them before her quite distinctly in their own colors. It was simple for her to suppress the real colors and substitute her own.

Color does seem to fill an essential place in *S*'s mind, and seems to act, as Wheeler and Cutsforth express it, in a manner analogous to that of a conditioned reflex.

University of Edinburgh
Edinburgh, Scotland

UN CAS DE SYNAESTHÉSIE

(Résumé)

- 1) La synaesthésie est très développée et comprend des personnes, des conférences, des livres, des auteurs, de la musique, des pays, et tous les domaines des sens, sauf celui de la kinaesthésie.
 - 2) Le sujet possède des formes de nombres; des formes pour les jours de la semaine, jours passés et jours prochains; des formes pour les mois, passés et prochains; et des formes pour l'histoire.
 - 3) Le sujet a toujours conscience d'une atmosphère présente de couleurs, laquelle change selon la personne adressée, la matière écoutée, la musique écoutée, etc.
 - 4) N'importe quel mot ou lettre peut causer trois groupes différents de couleurs. Les couleurs peuvent varier selon que le sujet pense à l'apparence, au son, ou à l'idée du mot ou lettre.
 - 5) Le mot lui-même se présente comme une image visuelle non colorée.
 - 6) La plupart des mots ont leur couleur caractéristique selon les voyelles qu'ils contiennent.
 - 7) Quelques-unes des couleurs sont dues à des associations.
 - 8) La couleur associée ne semble pas jouer un rôle secondaire, mais joue un rôle essentiel dans la vie mentale de l'individu.
- a) Dans une expérience d'apprentissage où l'on a présenté les lettres tactilement la couleur s'est présentée au moment où chaque lettre a été identifiée.
- b) Dans la seconde expérience, l'apprentissage de dix syllabes non-sens, on a trouvé que les syllabes ont été groupées selon leurs couleurs.

COLLINS

EIN FALL VON SYNAESTHESIE

(Referat)

- 1) Die Synaesthesie ist hoch entwickelt und umfasst Menschen, Vorlesungen, Bücher, Autoren, Musik, Länder, und alle Sinnesgebiete, ausser Kinaesthesie.
 - 2) Die Vp hat Zahlformen; Formen für die Wochentage, für die kommenden wie für die vergangenen; für Monate, ebenfalls für die kommenden wie für die vergangenen; und für Geschichte.
 - 3) Die Vp ist sich immer einer Farbenatmosphäre bewusst, die mit jeder angesprochenen Person wechselt, wie auch mit dem Gegenstand des Gesprächs, oder mit der Musik, die sie hört, etc.
 - 4) Irgend ein Wort oder Buchstabe kann drei verschiedene Farbkombinationen hervorrufen; diese können variieren, je nach dem, dass die Vp an das Aussehen, den Klang oder die Idee des Wortes oder des Buchstabens denkt.
 - 5) Das Wort selber erscheint als farbloses, aber sichtbares Bild.
 - 6) Die meisten Wörter erhalten ihren Hauptfarbenton von den Vokalen, die sie enthalten.
 - 7) Manche Farben werden durch Ideenverbindungen herbeigeführt.
 - 8) Die Assoziationsfarbe spielt, scheinbar, keine untergeordnete, sondern eine sehr wichtige Rolle im Geistesleben des Individuums.
- a) Bei einem Lernversuch, wobei die Buchstaben durch Tasten vermittelt wurden, nahm die Vp die Farbe wahr, sobald sie den Buchstaben erkannte.

b) Bei dem zweiten Versuch, dem Erlernen von 10 Unsinnssyllben, fand es sich dass die Syllben nach ihren Farben geordnet waren.

COLLINS

СЛУЧАЙ СИНЭСТЕЗИИ

(Реферат)

1. Синэстезия очень распространена и может быть прослежена на различных людях, при чтении книг, творчестве, в музыке; она может быть прослежена в условиях отдельных стран, на материале различных рецепторов за исключением осязательного.
 2. Наш субъект характеризуется образным восприятием чисел; он имеет образы для дней недели и месяцев (безразлично—прошедших или будущих) и для исторических событий.
 3. Субъект постоянно имеет цветовую характеристику состояния атмосферы, которая меняется в зависимости от того, с кем он говорит, воспринимаемого материала или слышимой музыки.
 4. Каждое слово или буква вызывали различные цветовые ощущения в зависимости от того, на какую сторону: оптическую, звуковую или смысловую субъект обращал внимание.
 5. Слово само по себе воспринималось, как неокрашенная зрительная форма.
 6. Большинство слов принимали характерную окраску в зависимости от содержащихся в них гласных.
 7. В некоторых случаях цветовая окраска зависела от ассоциаций.
 8. Ассоциированная окраска играет значительную роль в психической жизни данного индивида.
- a) В пробных опытах, где буквы представлялись тактильно, цветовая окраска появлялась лишь при идентификации буквы.
- b) в другой серии — было установлено, что при заучивании бессмысленных слогов, они группировались по цветовому признаку.

Коллинс (Collins).