I suggest that the true explanation of this effect may be found in spectral diffraction of part of the reflected light. The orientation of the fibrils in the cellulose and of the fibres in the paper produce a kind of grating from which the reflected light is partially diffracted into a spectrum, the red and blue ends of which at a particular distance cover the vision of the right and left eyes respectively.

A similar and more pronounced effect may be observed with certain specimens of polished chalcedony and opal in which it is certainly a diffraction effect, due to a finely striated structure of these minerals.

J. STRACHAN.

New Northfleet Paper Mills, Ltd.,
Kent.

MR. BURKE'S observation regarding the reflexion from paper as viewed by the two eyes separately may have an explanation other than that suggested by Dr. Harrison (NATURE, May 30, p. 613). A simple comparator I have in use has magnesium carbonate block reflectors set substantially vertically and parallel to the plane of a large, tall window, so that these very excellent diffusing reflectors receive skylight at roughly 45° incidence. The light reflected normally is received on two first-surface mirrors arranged in a casing and viewed through a tube at one side, so that a square field divided by a barely perceptible vertical septum is observed. Customarily, this instrument is set up so that the observer has the window at his left-hand side. Thus the left eye is somewhat exposed to direct light from the window, whereas the right eye is appreciably protected by shadow thrown by the nose. On changing from left to right eye a distinct difference is noticed in the blueness or redness of any near-white field examined, and this is greatly reduced by placing a screen so as to prevent much light from the window striking the left eye.

J. LEONARD BOWEN.

9 The Wiend,
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Wirral.

IN NATURE of May 30, Mr. E. Burke points out that "If an open book is illuminated fairly strongly from one side, for example, from over one shoulder, the general colour of the white paper is different for the two eyes when one or the other is closed". Dr. V. G. W. Harrison, commenting on this letter, regards this phenomenon as "due to selective specular reflexion from the paper".

I suggest, however, that this explanation is not the correct one. If one sits reading a book with the light coming over the left shoulder, the left eye is exposed to a certain amount of direct illumination by the light source, while the right eye is shielded from direct illumination by the nose and the nasal edge of its orbit, and is thus only illuminated by light reflected from the interior of the room. This is evident from the fact that while actually reading the book, one sees the illuminant by peripheral vision with the left eye, but not with the right. Under these conditions, the right eye is more dark-adapted than the left eye. Now from the Purkinje phenomenon we know that the subjective brightness of specific colours varies according to the degree of dark-adaptation of the eyes, and it is surely in this direction that the explanation of the phenomenon noticed by Mr. E. Burke is to be sought. Under the conditions described, the right eye would be employing 'rod vision' to a greater extent than the left eye, and differences of colour perception are to be expected.

It is, of course, true that the image of one and the same printed page occupies the foveal area of both retinas, but the phenomena of simultaneous colour contrast show us that central vision is not independent of the nature of the peripheral 'outfield'.

Dr. Harrison's explanation seems to be negatived by the fact that if book and reader are suddenly rotated through 180° without moving the illuminant, the phenomenon described persists unaltered for some time, until a new adaptation takes place.

J. LEYCESTER KING.

The Psychological Laboratory,
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Chipping Norton,
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June 10.

Origins of Human Graphic Art

As a result of the publication of my note in NATURE of June 6, p. 637, Mr. J. Leonard Bowen, of Port Sunlight, Cheshire, sent me the enclosed letter which seemed to me of such interest that I have obtained his permission to publish it in NATURE. Mr. Bowen tells me that the monkeys were almost certainly the common rhesus monkey, *Macaca mulatta*.

JULIAN S. HUXLEY.

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June 11.

YOUR note on the "Origins of Human Graphic Art" reminds me of observations I made some years ago at Matheran, near Bombay. Large numbers of large long-tailed monkeys romp about this little hill station and afford much amusement to visitors. I frequently saw such monkeys trace the outline of one of their hands in the dust, using a twig held almost as one would hold a pencil. Other monkeys inspected the traced outlines with a show of interest, walking round and round the spot with what seemed to be an anxious manner.

J. LEONARD BOWEN.

Simplification of Musical Notation

(1) LIKE everything else which has grown up as a result of an evolutionary process, the present musical notation[1] has imperfections; yet it remains superior to our ordinary orthography. It is universally accepted, and there is nothing in it corresponding to the English 'ough' sounds, or to, for example, the differences in the French and Italian pronunciations of 'un' and 'le'.

(2) Apart from the coalescence of sharps and flats on keyboard instruments, the present notation fulfils Lord Brabazon's requirements without ambiguity or redundance.

(3) The present notation is not intended only for keyboard instruments. In music for string quartet