clearness of the image in a camera is due to two causes, the first being the capability of the lens to receive a large number of rays, and bend or refract them in a nearly parallel course, and the second being due to the lens not dispersing or breaking up any of these rays of white light into their primary colors. The lens which has this useful property is said to be achromatic.

Pure water refracts light very well; hence, a globe of water is used by jewellers to turn the rays of light or refract them toward the object to be examined; the globe from its shape, also acts as a lens to collect the scattered rays together. Spearing for eels affords practical examples, where allowance is made for refraction before the aim is being taken, the real position of the eel never being that where it appears by its image. If instead of fresh water salt water were experimented on, the ray is more refracted. Alcohol bends it yet more, and oil refracts still more than alcohol. Refraction in water is well shown by placing a shilling in a basin, so as to be seen by the eye looking low down over the edge; if water be now poured in the coin is no longer visible, the ray of light which came from it being refracted; but, by moving the coin an inch or two nearer the observer, it may be seen, the new position bringing the refracted ray direct to the eye.

The space occupied in the spectrum by each ray is not of equal length, the violet ray alone occupying one fourth of the spectrum, the green and blue rays one sixth, while the yellow and orange occupy but a very narrow zone. The red ray is nearly as broad as the green. These relative breadths of each ray are given in the accompanying woodcut.

Sir J. Herschell and Seebeck have made a very minute examination of the spectrum, and have shown that there exists, far beyond the boundary of the violet, a faint violet light (or, rather, a lavender grey), which gradually becomes colorless: similarly, red light exists beyond the assigned limits the red ray.

Every object, that it may be seen, m throw off rays of light to reach the eye, light received from the sun and most minous bodies being white light; bu often happens that the light which reac the eye is no longer white but colored, is to say, the object has the power of bre ing up the white and sending off some the colored rays to the eye, while it wi holds the rest, and these rays which re the eye determines the color of the obje thus, a leaf appears green because it se off only green rays. The colors of obje then, are those rays of colored light gi off from the surface of any body. T fact may be more generally expressed in these words: all bodies, whether n ral or artificial, throw off in all direct light of the same color as themselves, though the light from the sun, which i upon them and renders them visible, is ways white.

LETTER FROM AN OLD ARTIS

Editor Daguerreian Jorunal:

I have been much gratified in recei as well as in the perusal of the first n ber of your valuable journal; devoted the Art which, although like printing may not indeed be "the preservative o other Arts," yet it is the preservative that, the most valuable memento of d friends, "the human face divine."

I sincerely trust and hope that you m meet with a due appreciation of your deavors, from the members of our pr sion, which may encourage you on greater efforts. I have no doubt that world will soon begin to learn from press, if not from actual observation, this Art will claim a place beside her s Arts, and command that respect whic so justly due.

How few there are that exalt in profession; mainly because they do put forth the requisite exertions, and a