

been looked at by every student of the skies for thousands of years. It has been most carefully scrutinized by those employing good telescopes. And yet it possesses a something which had never been noticed until Mr. Isaac Roberts took a photograph of the cluster with an exposure of four hours.

He then found that the well-known group of stars was surrounded, or, indeed, I might say bathed, in a widely extended fire-mist, or mass of glowing nebula. The light from this is of such a kind that it does not appeal to any nerves that are in our eyes, but it does produce an impression on the photographic plate.

Consequently, we are able, time after time, to reproduce on our pictures the ghost-like outlines of this cloud of fire, which can never be perceived by any human eye.

It is quite plain that this nebula can be no mere effect of some error in development, or of some accidental intrusion of light. Widely differing instruments, treated by quite different processes, invariably reproduce the same forms. We are therefore assured that what we are looking at has a veritable independent existence.

It is clearly some trace of that great primeval nebula by whose condensation the stars forming the Pleiades have been produced.

There is indeed a peculiar power possessed by the photograph processes of exhibiting clearly and vividly things which elude ordinary vision. I will here mention a remarkable instance of, however, a very different kind, which came under my notice the other day. In this case the photograph rendered certain marks visible which the eye could not detect.

The puma in its adult form is, as everybody knows, not a spotted animal, but it is clearly allied to the

leopard and to other creatures which do possess spots. The affinity of the puma to these spotted relatives is sufficiently manifest by the resemblance in many points of its structure. It is also illustrated in a very striking manner by the circumstance that the young puma is known to be abundantly covered with strongly marked spots. As the little animal grows up, these spots become more and more evanescent, until at last in the adult they have vanished altogether. That is to say, they have vanished to our eyes, but the photographic eye took a somewhat different view of the matter.

On the photograph of a fully grown puma to which I have referred, the spots were most distinctly visible, though no trace of the spots was discernible by ordinary vision. Other instances could be given of a somewhat similar kind.

We can explain how the photograph supplements our eye in a twofold manner. In the first place, the eye gets fatigued by staring long in hope of perceiving something which is very faint. The photograph, on the other hand, sees a faint object the more distinctly the longer it stares. In the second place, the photograph possesses the property of being affected by light of a kind quite different from that which affects our sense of vision.

Thus it has come to pass that the camera has proved to be of such vast assistance to the astronomer. It not only shows him objects which are too faint to be perceptible to human vision, but it also exhibits to him objects where the question is rather relative to the quality of the light, than to its quantity.

Thus it is, that in a double way the camera has been of such striking service by its disclosures of "Invisible Stars."—*The Youth's Companion.*