SPECTACLES, in dioptrics, a machine conſiſting of two lenſes set in ſilver, horn, &c. to aſſiſt the defects of the organ of sight. Old people, and others who have flat eyes, uſe convex ſpectacles, which cauſe the rays of light converge ſo as to meet upon the retina: whereas myopes, or ſhort-sighted people, uſe concave lenſes for ſpectacles, which cauſes the rays to diverge, and prevent their meeting ere they reach the retina. See Optics, n⁰ 73.

Ocular SPECTRA, images preſented to the eye after removing them from a bright object, or cloſing them. When any one has long and attentively looked at a bright object, as at the ſetting ſun, on cloſing his eyes, or removing them, an image, which reſembles in form the object he was attending to, continues firme time to be viſible. This appearance in the eye we ſhall call the ocular ſpectrum of that object.

Theſe ocular ſpectra are of four kinds : 1st, Such as are owing to a leſs ſenſibility of a defined part of the retina or ſpectra from defect of ſenſibility. 2d, Such as are owing to a greater ſenſibſlity of a defined part of the retina, or ſpectra from exceſs of ſenſibility. 3d, Such as reſemble their object in its colour as well as form ; which may be termed direct ocular spectra. 4tl1, Such as are of a colour contrary to that of their object, which may be termed reverſe ocular ſpectra.

SPECTRE, an apparition, ſomething made preter­naturally viſible to human ſight, whether the ghoſts of dead men or beings superior to man.

A belief that ſupernatural beings ſometimes make themſelves viſible, and that the dead ſometimes reviſit the living, has prevailed among moſt nations, eſpecially in the rudeſt stages of ſociety. It was common among the Jews, among the Greeks, and among the Romans, as we find from the Scriptures, and from the poems of Homer and Virgil. Celeſtial appearances were indeed ſo often exhibited to the Jews, that the origin of their belief is not difficult to be explained.— The Divine Being manifeſted himſelf to each of the Pa­triarchs by ſome ſenſible ſign, generally by a flame of fire, as he did to Moſes. Under this ſemblance alſo did he appear to the Iſraelites during their abode in the de­fert, and after they obtained a ſettlement in the land of Canaan. Nor did they believe that heavenly beings alone affirmed a ſenſible appearance : They believed that deceaſed men alſo ſometimes reviſited this world. When Saul went to conſult the witch at Endor, he asked her to bring up the perſon whom he ſhould name unto her ; a proof that he considered his demand as eaſy to be per­formed, and therefore that he probably acted under the influence of popular opinion. The ſame opinions had been generally entertained at a much earlier period ; for necromancy and witchcraft, the arts by which the dead were ſuppoſed to be raiſed, had been prohibited while the Iſraelites were in the wilderneſs, and yet untainted with the vices of the Canaanites. They muſt therefore have derived them from Egypt, the cradle of ſuperſtition, as well as of the arts and ſciences.

Among the Greeks and Romans the apparition of ſpectres was generally believed. On innumerable occa- ſions the gods are ſaid to have diſcovered themſelves to the eyes of mortals, to have held conferences, and to have interpoſed their aid. The ghoſts of the dead, too, are ſaid to have appeared. When Æneas, amidſt the diffraction and confusion of his mind in flying from the deſtruction of Troy, had loft his wife by the way, he returned in ſearch of her. Her ſhade appeared to him (for ſhe herſelf had been ſlain) with the ſame aſpect as before, but her figure was larger. She endeavoured to aſſuage the grief of her unhappy husband, by aſcribing her death to the appointment of the gods, and by fore­telling the illuſtrious honours which yet awaited him. But when Æneas attempted to claſp her in his arms, the phantom immediately vaniſhed into air. From this ſtory we may obſerve, that the ancients believed that the um- bræ or ſhades, retained nearly the ſame appearance after death as before; that they had ſo far the resemblance of a body as to be viſible ; that they could think and ſpeak as formerly, but could not be touched. This deſcription applies equally well to thoſe ſhades which had paſſed the river Styx, and taken up their residence in the infernal regions. Such were the ſhades of Dido, of Deiphobus, and all thoſe which Æneas met with in his journey through the ſubterraneous world.

It appears from the writings of modern travellers who have viſited rude and ſavage nations, that the belief of ſpectres is no leſs common among them. Mr Bruce tells us, that the prieſt of the Nile affirmed, that he had more than once seen the ſpirit of the river in the form of an old man with a white beard. Among the Maho­metans the doctrine of ſpectres ſeems to be reduced to a regular ſyſtem, by the accounts which they give of genii. Whoever has read the Arabian Nights Enter­tainments muſt have furniſhed his memory with a thou- ſand inſtances of this kind. Their opinions concerning genii ſeem to be a corrupted mixture of the doctrines of the Jews and ancient Perſians. In Chriſtian countries, too, notwithſtanding the additional light which their re­ligion has ſpread, and the great improvement in the ſciences to which it has been ſubſervient, the belief of ghoſts and apparitions is very general, eſpecially among the lower ranks. They believe that evil ſpirits ſome­times make their appearance in order to terrify wicked men, eſpecially thoſe who have committed murder.— They ſuppoſe that the ſpirits of dead men aſſume a corporeal appearance, hover about church yards and the houſes of the deceaſed, or haunt the places where murders have been committed. (See Ghost.) In ſome places it is believed that beings have been ſeen bearing a perfect reſemblance to men alive. In the Highlands of Scotland, what is called the ſecond ſight is ſtill believed by many (ſee *Second Sight)* ; viz. that future events are foretold by certain individuals by means of spectral repreſentation.

So general has the belief of ſpectres been, that this circumſtance alone may be thought by ſome ſufficient to prove that it muſt have its foundation in human nature, or muſt rest upon rational evidence. When any doctrine has been univerſally received by all nations, by ge­nerations living ſeveral thouſand years from one an­other, and by people in all the different ſtages of ſociety, there is certainly the ſtrongeſt preſumption to con­clude that ſuch a doctrine has its foundation in reaſon and in truth. In this way we argue in favour of the exiſtence of a. God, concerning moral diſtinction, and the doctrine of a future ſtate : and certainly ſo far we argue well. But if the ſame. argument be applied to idolatry, to ſacrifices, or to apparitions, we ſhall find that it is applied improperly. Idolatry was very general among ancient nations ; ſo was the offering of ſacrifices,