sensations of smell are excited by certain effluvia, which, in the open air, are always issuing from the surfaces of most bodies, and striking on the extremities of the olfactory nerves, give them a peculiar sort of impression, which is communi­cated to the brain. The particles which issue thus from bodies are extremely volatile, and produce sensation by a degree of contact, which, though insensible, is still more efficient than if it were more gross and palpable. It is by a similar species of insensible contact that the eyes and ears are affected by external objects; while, in the excitation of the sensations of touch and of taste, an actual and sensible contact of the object with the organ is necessary. The or­gans of smelling are the nostrils and olfactory nerves; the minute ramifications of the latter being distributed through­out the whole concavity of the former.

The effluvia from odorous bodies are constantly floating about in the atmosphere, and must of course be drawn into the nostrils along with the air in inspiration ; “ so that there is,” as Dr. Smith observes, “ a manifest appearance of design in placing the organ of smell in the inside of that canal through which the air is continually passing in inspi­ration and expiration.” It has been affirmed by Boerhaave, that the matter in animals, vegetables, fossils, and the like, which chiefly affects the sense of smelling, is that attenuat­ed substance, inherent in their oily parts, called *spirits;* because, when this is taken away from the most fragrant bodies, what remains has scarcely any smell at all ; but this, he says, if poured on the most inodorous bodies, gives them a fragrancy.@@, We cannot however enter at present upon this inquiry.

The sense of smell has a close alliance with that of taste; and it seems probable from the proximity in the situation of their organs in all animals, that both are principally in­tended to guide them in the choice of their food ; so that from this close connection, they are better enabled to choose what is good for them, and to reject what would be injuri­ous. This is the opinion of Dr. Reid, as it was, in a very early period of the history of philosophy, that of Socrates and of Cicero.@@2 Dr. Reid also remarks, that the sense of smell probably serves the same purpose in the natural state of man ; but it is not always a sure guide for this purpose. The organs of smell differ, like those of the other senses, according to the destination of the animals to which they belong; and we know, that this sense is in man much less acute, than in many other animals. We see, that in the choice of their food, they are guided by the senses of smell and of taste, except when man has brought them into a sort of unnatural state by domestication. And this circumstance renders it probable, that both these senses were intended to serve the same purpose in the natural state of our spe­cies, although less calculated for this end than they were in the brutes, on account of the great superiority of their smelling organs. Besides, since it is probable that man, in the natural state, acts more by instinct than when civilized in society, so also it is reasonable to think, that he may pos­sess some of the senses, this of smell tor instance, in great­er acuteness than we do. This indeed we are assured to be a fact; for we are told in the *Histoire des Antilles,* that there are negroes who, by the smell alone, can distinguish the footsteps of a Frenchman from those of a negro.

The sense of smell is much more obtuse in man than in some of the lower animals. Dogs we know possess a power of smelling, of which we can scarcely form a conception, and which it is happy for us we do not possess ;@@3 and birds of prey are said to possess this sense in still greater acute­ness. But although this be more perfect, still the sense of smelling in man, who has other means of judging of his food, is such as to fit him for deriving enjoyment from a diversity of scents, particularly those of flowers and per­fumes, to which dogs and other animals seem perfectly in­sensible. It has been said, we are aware, that some ani­mals, the elephant for instance, are capable of this enjoy­ment ;@@4 but of this fact we cannot help being very doubtful.

There is a very great sympathy between the organs of smell and of taste ; tor any defect or disease of one is ge­nerally attended with some corresponding defect or disease of the other. There is also a greater similarity between the sensations of both these, than between those of any other two senses ; and hence it is, that we can sometimes tell the taste of an object from its smell, and *vice versa.* Hence also the reason why we apply the same epithets to the names of both these classes of sensations ; as a sweet smell or taste.

It deserves also to be remarked, that both these senses seem subservient to the preservation of the animal exist­ence, rather than to any other purpose. They according­ly constitute an object of the natural history of man, rather than of intellectual or of moral philosophy. The other three senses, on the contrary, seem rather intended for, as they certainly are essential to, our intellectual improvement, and become, of course, a proper object of investigation in the sciences of moral philosophy, or metaphysics.

The advantages derived by man and the other animals from the sense of smelling are not confined to the assistance which it affords them in the choice of their food. Most bodies in nature, when exposed to the open air, are con­stantly sending forth emanations or effluvia of such extreme minuteness as to be perfectly invisible. These diffuse themselves through the air, and however noxious or salu­tary, would not be perceived without the sense of smelling, which, if not vitiated by unnatural habits, is not only a faith­ful monitor when danger is at hand, but conveys to us like­wise the most exquisite pleasures. The fragrance of a rose, and of many other flowers, is not only pleasant, but gives a refreshing and delightful stimulus to the whole system, while the odours proceeding from hemlock, or any noxious vegetable, or other substance, are highly offensive to our nostrils. Hence we are naturally led to seek the one class of sensations, and to avoid the other.

In some species of animals the sense of smell seems to be connected with certain mental sympathies, as those of hear­ing and sight are in all that possess them in any high de­gree ; for not only their sexual desires appear to be excited by means of it, but other instinctive passions, which, ac­cording to the usual system of nature, should be still more remote from its influence. Dogs, although wholly unac­

@@@, See also Sir William Drummond's Academical Questions, book i. chap. 9.

@@@’ “ Ut gustus," says a learned physiologist, “ cibi itineri, sic olfactus ostio viarum, quas aer subire debet, custos præponitnr, moniturus ne quid noxii, via quse semper patet, in corpus admittatur. Porro, ut gustus, sic quoque olfactus ad salutarem cibum invitat, a noxio aut corrupto, putrido imprimis vel rancido, deterret.’’

“ When thou seest the moutb, through which animals take in whatever they desire, always placed near the nose and eyes, thinkest thou not, say Socrates to Aristodemus, that this is the work of a providence." (Xenophon's Memorabilia, book i. chap. 4.)

@@@• “ The excessive eagerness which dogs express on smelling their game, seems to be but little connected with the appetite for food, and wholly independent of any preconceived ideas of the objects of their pursuit being tit for it. Hence several kinds of them will not eat the game which they pursue with such wild impetuosity ; and of which the scent seems to animate them to a degree of ecstacy far beyond what the desire of food can produce.” (Knighton Taste.)

@@@• There is an animal to which, naturalists say, perfume is so agreeable and so necessary, that nature has provided it with a little bag stored with an exquisite odour. “ On pretend,” says Buffon, “ que la mangouste ouvre cette poche, pour se rafraîchir lorsqu' elle a trop chaud.’’