

SCIENCE

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FRIDAY, FEBRUARY 15, 1901.

PHYSICS AND FAITH.*

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OUR knowledge concerning the properties of and changes in matter is gained in the first place through our bodily senses, and secondly through the intellect; the primary concepts thus acquired are confirmed, modified and enlarged by operations of the imagination and of the reason. The five senses with which we are endowed are of very unequal value in the acquisition of knowledge of natural objects; smelling, tasting and hearing make but small and unimportant contributions compared with those communicated by the senses of sight and of feeling.

An intelligent being, having only the single sense of feeling, would nevertheless be able to handle a large number of objects within his reach and to study their properties; he would early distinguish between matter at rest and matter in motion; he would notice the properties of inertia and of weight; he would perceive in his person the effects of heat and of cold, of dryness and of moisture; he would become acquainted with the shape of bodies of moderate size and with their superficial properties, such as smoothness or roughness, softness or hardness; he might, if he made sagacious use of his one power, recognize the distinction between matter in its three states—solid, liquid and

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* Address of the retiring President of the Chemical Society of Washington, February 14, 1901.

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