tems of thought constructed by science, and even for those universes that will never be created. The eternal norm of the divine principle is actualized in nature, but it is above nature, because nature is, as it were, only a single instance of the infinite possibilities to which it applies or could apply. Thus God is not limited to the cosmic order of nature, but is supernatural in the literal sense of the word. No system of things or beings, either real or imaginary, could exist without him, except perhaps a chaos; yet even that would be so filled with self-contradictory inconsistencies or irrational unthinkables that (if it be a true chaos) it would be thinkable only as a vague idea; it could not stand, for it would be doomed to die even before an attempt were made to call it into existence.

There is no prophet that preaches the superpersonal God more plainly than mathematics, and the magic squares are like a magic mirror which reflects a ray of the symmetry of the divine norm immanent in all things, in the immeasurable immensity of the cosmos not less than in the mysterious depths of the human mind.

MR. PETERSON'S PROPOSED DISCUSSION.

Very valuable ideas oftentimes appear so obvious, when once set forth, that high laudation of their inventors would invite ridicule. Such, we are told, was the notion that obsessed C. Colombo, and such is Mr. Peterson's proposal to start in The Monist a discussion of philosophical terminology. It may be a very simple proposal, but nobody, as far as one careful reader of The Monist remembers, had made it before; and its utility to students of phenomenology, normative science, and metaphysics will have a high coefficient in its proportionality to the advantage they take of it. Duty calls upon us to contribute, each one what he can that will be useful, whether in the way of question or in that of answer. It seems likely that in my life-time of study I may have learned something of the way to investigate questions such as Mr. Peterson puts; and if so, here is an opportunity to be of aid to other students.

Experience, the first term concerning which Mr. Peterson asks for light, is somewhat remarkable for having been employed as nearly as possible in the same sense from Polus the Acragentine (i.e. native of Girgenti) sophist down to Avenarius and Haeckel.
As my first step in investigating its meaning, I should look out its equivalent *empiria*¹ in Bonitz's *Index Aristotelicus*. For every serious student of philosophy ought to be able to read the common dialect of Greek at sight, and needs on his shelves the Berlin Aristotle, in the fifth volume of which is that index. On looking out *empiria* there, what first strikes one is that it is not a very common word with Aristotle, nor yet an unusual one, since Bonitz cites something over a dozen passages in which it occurs. The first (Post. Anal. II, xix) runs: "From sense are engendered memories, and from multiplied memory of the same thing is engendered experience; for many memories make up a single experience." Waitz (Organon, II, 429) has a minute note on this passage. Another passage to which the Index refers (Nic. Ethics, VI, viii) is thus translated by Stewart in his valuable "Notes" on the work: "If we ask why a boy may be a mathematician, but cannot understand philosophy or natural science, we find that it is because the truths of mathematics are abstract" [a bad explanation but that does not affect the evidence as to the meaning of *empiria*.] "whereas the principles of philosophy and natural science are reached through long experience. A boy does not realize the meaning of the principles of philosophy and natural science, but merely repeats by rote the formulae used to express them." In the Politics (A, xi) Aristotle remarks that theorizing is free, while experience is necessitated, and goes on to speak of experience with live stock, etc. In another place in the Politics (E, ix) he says that the military commander of greatest experience in strategy is to be preferred, even though his habit of peculation be known; while for the chief of police, or for a treasurer, experience is of no account in comparison with integrity. But the cynosural passage is the first chapter of Book A of the Metaphysics; and here he remarks (as he likewise does in the Ethics) that experience is a knowledge (gnosis)² of singulars. Therein Aristotle's language differs from that of the Socrates of Plato, with whom *empiria* is the skill that results from long dealings with any matter. Aristotle never intended to say that there is no other cognition of singulars than in experience; for that would directly contradict his doctrine that experience is a mass of memories relating to the same subject. His remark was, however, understood in the Middle Ages to be a definition of experience, and was repeated as such, a blunder that was not so unnatural as it would have been if the scholastic doctors had dealt with direct experience. The teachings of the *Aristotelic Index* having been exhausted, I turn to Harper's *Latin Lexicon*, which informs me that no writer of the Golden Age used *experience* in the general sense, though that acceptance became common in the Silver Age, especially with Tacitus. The next work that I personally should consult would be my own notes collected during more than forty years. I always carry a pad of the size of a Post Card, of thick paper, (50 in a pad, enough to last for two days, at least); and on these I note whatever elements of experience may reach me. I keep these in drawers and boxes like the card catalogue of a library. I arrange and rearrange them from time to time. It is a treasure more valuable than a policy of insurance. I probably have near two hundred thousand such notes. But in order to bring what I have to say to a close, I will quote from the definition of experience given by the father of modern experiential philosophy, Dr. John Locke. In the Essay Concerning Human Understanding, (II, i, 2) we read (and the italics are in the original): "Whence has [the mind] all the materials of reason and knowledge? To this I answer, in one word, from experience: in that our knowledge is founded, and from that ultimately derives itself. Our observation employed either about external sensible objects, or about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understanding with materials of thinking." This definition so formally stated, by such an authority, quite peerless for our present purpose, should be accepted as definite and as a landmark that it would be a crime to displace or disturb. For in order that philosophy should become a successful science, it must, like biology, have its own vocabulary, and as in biology, it must be the rule that whoever wishes to introduce a new concept is to invent a new word to express it. This is no suggestion of the moment. I am, for my humble part, maturely convinced that philosophy will never be upon the road to sound results until we dismiss our affection for old words and our dislike of newfangled words, and make its vocabulary over after the fashion of taxonomic zoology and botany. I limit my recommendation to technical terms; for I can pretend to no competence to give advice about belles-lettres. Yet even there I perceive that people read old authors, and admire them for saying what they never meant to say; because the modern readers forget that two or three centuries ago words still familiar

¹ *Humane* and *human* were one and the same word in Locke's day.
suggested quite different ideas from those the same words now suggest.

But somebody may object that Locke's definition is vague, being founded on a misconception of the nature of perception. Suppose, the objector will say, that a newborn male infant were to be brought up among a colony of men on a desert island, without ever having seen a woman and barely having heard of such a creature. Suppose that, arrived at the age of twenty, he were to meet on the beach a Pacific Island woman who had swum over from another island. Would not the irresistible, the only possible cognition he could have of this creature be strongly colored by his own instincts? It would be the ineluctable result of "observation employed concerning an external sensible object." The word "experience," however, is employed by Locke chiefly to enable him to say that human cognitions are inscribed by the individual's life-history upon a tabula rasa, and are not, like those of the lower animals, gifts of inborn instinct. His definition is vague for the reason that he never realized how important the innate element of our directest perceptions really is.

To such an objector I might say, My dear fellow, you must be joking; for under the guise of an objection you reinforce what I was saying with a new argument for restricting the use of the word "experience" to the expression of that vague idea which Locke so well defines. You make it plain that a distinct word is wanted, or rather two distinct words, to express the two more precise concepts which you suggest. The idea of the word "experience," was to refer to that which is forced upon a man's recognition, will-he nil-he, and shapes his thoughts to something quite different from what they naturally would have been. But the philosophers of experience, like many of other schools, forget to how great a degree it is true that the universe is all of a piece, and that we are all of us natural products, naturally partaking of the characteristics that are found everywhere through nature. It is in some measure nonsensical to talk of a man's nature as opposed to what perceptions force him to think. True, man continually finds himself resisted, both in his active desires and in that passive inertia of thought which causes any new phenomenon to give him a shock of surprise. You may think of an element of knowledge which thus resists his superficial tendencies; but to express precisely that idea you must have a new word: it will not answer the purpose to call it experience. You may also reflect that every man's environment is in some measure unfavorable to his development; and so far as this affects his cognitive development, you have there an element that is opposed to the man's nature. But surely the word experience would be ill-chosen to express that.

But I am encroaching far too much upon the space of this number, and am taking too much advantage of our good editor's indulgence. I did wish to consider what element of his philosophy Comte had specially in mind in christening it Positive. He plainly meant that it should be unlike the metaphysical thought which kneads over and over what we know already, and would be like the sort of material which is furnished by a microscope or by an archaeologist's spade. I hope Mr. Peterson's suggestion may bring a whole crop of fruit.  

MILFORD, PA.  

CHARLES SANTIAGO SANDERS PeIRCE.