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ARTICLE IX.

NOTES.

MORE CONCERNING THE LANSING SKELETON.

[Instead of contributing a closing article upon the Lansing Skeleton, the Editor has put it into the competent hands of Miss Owen, whose long residence near the locality, and whose careful study of the facts involved, have given great weight to the suggestions she has offered to the scientific world. In the conclusions to which she arrives, I heartily concur.—ED.]

THE fossil skeleton found on the Concannon farm at Lansing, Kansas, but first brought to the notice of the world by Mr. M. C. Long, of Kansas City, continues to maintain a firm hold on the attention of those distinguished for special work on the subjects involved in the determination of its early history. As yet, however, they have not been able to agree, and the two interpretations offered by geologists are supported by leading advocates of the divergent views.

Under the title of "A Fossil Man in Kansas," its merits were considered by Professor S. W. Williston, in *Science*, August 1; while the discussion was carried on by Mr. Warren Upham, in the *American Geologist* and *Records of the Past* for September, and in the BIBLIOTHECA SACRA for October, 1902, by a detailed exposition of scientific data determining the overlying deposit to be loess of the Iowan stage of the glacial period, and assigning to man the right of citizenship at the close of time immediately preceding that epoch.

Professor N. H. Winchell, having been one of the earliest observers, was inclined to favor this interpretation, but reserved a positive opinion for the fuller and more careful investigation of a second visit, calling attention to the division of the loess suggested by Professor Todd into what he calls the "upper loess," exposed on the uplands, and the "lower loess," forming terraces of more recent date at lower levels. To which of these the deposit overlying the skeleton might correctly be referred, he refrained from deciding hastily.

From Mr. Upham's interpretation, however, Professor T. C. Chamberlin, after a second visit, dissented in a lengthy and elaborate article published in the October-November number of the *Journal of Geology*. His arguments and conclusions as there set forth received the cordial support of Professors Samuel Calvin and R. D. Salisbury; and later, in an article by Professor W. H. Holmes, were accepted as the solution of the problem most satisfying to him as an anthropologist.

Preliminary conditions are discussed at great length by Professor Chamberlin before entering on interpretations, which he then approaches by saying: "The case is perhaps not an absolutely declared one, and a wholly unreserved interpretation may not be warranted, but a very strong balance of evidence seems to point in a specific direction. Certain things seem to me clear."

In naming the things which seem clear, that given first place is, "The deposit is not true loess."

As "the most conservative and most probable view" in a general summing-up of conclusions, he supposes certain probable action of the Missouri River at a high stage and in comparatively recent time, that would cause the small tributary to erode the earlier deposits from the site of the present tunnel, and, after a new flood-plain had been established, to assist other agencies in the process of refilling, although this would be mainly the result of "lodgment deposits derived from the upper slopes and silts blown up from the Missouri bottoms." From this reasoning he concludes that,—

"The deposit resulting from these combined agencies should be just such a mixed nondescript one as the actual case presents, viz., a little clear stratification in the lower part, some suggestion of stratification of an uncertain sort in the other portions, but no complete stratification or assortment; a general absence of declared structure, some limestone débris, some shale débris, a little drift, some loess wash, some soil wash, with land shells, some stream or back-water silt, with river shells—perhaps humanly introduced—and some wind silt; and hence, some portions unleached and others leached, with other variations from a typical unitarian deposit, such as true alluvium on the one hand, or typical loess on the other." And that "under this view the burial of the human remains took place either during the latest phases the erosive process of the stage indicated, or in the early phase of the building of the flood-plain. The antiquity of the burial is measured by the time occupied by the Missouri River in lowering its bottoms, two miles more or less in width, somewhere from fifteen to twenty-five feet, a very respectable antiquity, but much short of the close of the glacial invasion."

It is thus demonstrated, in both interpretations, that the burden of proof as to the age of the skeleton is wholly dependent upon the solution of the question whether or not the overlying deposit is true, typical loess. In order to determine this point in a manner at all acceptable, it becomes clearly necessary to show what constitutes typical loess, and by what characteristics it may be identified.

Against the theory that the twenty feet of overlying deposit is post-glacial alluvium from the drainage area of the little tributary ravine, Mr. Upham points out, in the *American Geologist* for January, two decisive objections which seem to him to necessitate the reference of the Lansing man to the loess-forming Iowan stage of glaciation. The first is

that the overlying deposit, which he considers loess, "is predominantly calcareous in nearly the same degree as average loess, though it has some scanty portions that have very little calcareous matter or none"; while, if it were postglacial, it would have been so weathered and leached as to be mostly destitute of its calcareous ingredients. He also mentions that the tunnel "had perfectly maintained its vertically cut sides and slightly arched top a year and a half before our visit, behaving in the manner so characteristic of the loess, which would not be possible in any postglacial deposit of alluvium."

His second objection is to the assumption that "the Missouri River during some part of the postglacial period had a flood-plain at Lansing about twenty-five feet above that of the present time," and that the changes of the current in the river channel were accountable for waters in the small ravine laying the deposit above the skeleton.

His own reading of the geology of the locality is that the highest elevation at the Concannon farm, about 200 feet above the river, shows the general level which was probably the surface of the river's flood-plain at the maximum stage of the loess deposition, and that during the period between Iowan deposition and the Wisconsin stage the loess was rapidly eroded, "giving the valley its present width and even a greater depth than now"; so that "the flood-plain at Lansing and southward was lower during the Wisconsin stage of glaciation than now, and has in general been somewhat built up, instead of being cut down, during all postglacial time."

On the occasion of Professor Winchell's second visit to the Concannon farm, he was able to compare the published interpretation of Professor Chamberlin with his own observations, and the conclusions arrived as were wholly different. These further observations so impressed him as to the importance of the discovery that it formed the subject-matter of his address as President of the Geological Society of America at the winter meeting in Washington, under the title "Was Man in America in the Glacial Period?"

In the address he gave a summary of the geological history of the Missouri Valley, with an account of the finding of the skeleton, and a careful description of the tunnel and surrounding region. He presented no theories and suggested no working hypothesis, but simply sought, with cool, judicial fairness, to identify the materials surrounding and overlying the skeleton, so as to assign them definitely to proper epochs of geological time. His observations and calculations were reinforced by acid tests and microscopic examinations, that confirmed his earlier impressions, and, added to the absence of drift in the fragmentary, clayey mass in which the bones were buried, led to the conclusion that it is residuary soil, resultant from the disintegration of local limestone shale, and therefore is of pre-Iowan age. The stratified silt was derived from the underlying clay. He also concluded that "there is no feature of the

deposit lying over the Lansing skeleton [above the water-laid silt layer] which is incompatible with the designation loess for the latitude and Pleistocene geology of the region."

At the last joint session of the Geological Society and Section E of the American Association for the Advancement of Science, at the same meeting, Professor G. F. Wright read a paper in which the interpretations of Professor Winchell and Mr. Upham were supported by arguments deduced from his own observations during a recent visit. Those observations had led him to consider the upper portion of the deposit in which the tunnel was cut to be the remaining original base of the much-eroded Iowan loess, which is recognized at higher levels, and referred by all to that stage of glaciation. He noted the resemblance of this overlying deposit to the loess covering vast expanses in Eastern China, the silt from which colors the waters of the great rivers and gives name to the Yellow Sea; and where its predominant characteristic is emphasized by millions of people living comfortably in such excavations as the Concannon fruit cellar at Lansing. He had been able to discover no glacial drift about the tunnel, and deemed the occurrence of pebbles in the upper portions as inconsistent with either back-water or æolian theories of deposit. The relic-bearing deposit beneath he considered essentially of preglacial time. Neither this paper nor the address of Professor Winchell has yet been published.

In the BIBLIOTHECA SACRA for January, Professor Wright considers the view taken of the age of the Lansing skull by the anthropologists, and reminds them and theologians that geological time is not that enormous quantity which it was supposed to be twenty-five years ago; that the oldest mummies indicate scarcely any change in the anatomy of the Egyptian race; and that the dawn of civilization in the valley of the Nile and of the Euphrates goes back to a time not much later than that assigned by Mr. Upham to the Lansing skeleton. He also calls to mind "the biblical account of a flood as universal as the human race, and implying an exceptional instability of the earth's crust continuing until some time after the introduction of man into the world."

His previous studies regarding early man give his opinions special significance, and this subject is referred to in an article on "The Noachian Deluge" in the October number of the same publication. After reviewing the evidence of human occupation fifty-three feet below the surface of the loess, at Kief, and referring to the great depression of land which occasioned those vast loess deposits in Southern Russia, he says: "Early man, therefore, certainly witnessed in the world changes of land level which have caused floods on a scale with which the race has not been familiar for several thousand years. Observed facts abundantly show that man came into the world before the unstable equilibrium accompanying the Tertiary period and the whole course of the glacial period had given place to the comparative quiet which now prevails."

In the March number of *Popular Science Monthly*, Professor Williston again tells of the discovery of "The Fossil Man of Lansing, Kansas," and reviews the two interpretations of the evidence of its geological age. He adheres to the explanation first offered by himself, and afterwards elaborated by Professor Chamberlin as the most probable and conservative, which gives the fossil man a considerable antiquity, but denies him the age of glacial time. He inclines, however, to a belief in a far greater antiquity of man in North America than distinguished anthropologists are prepared to admit from the character of the evidence they are necessarily dependent upon.

The age of the skeleton is again considered by Professor Wright in *Records of the Past* for April, in which he remarks that the anthropologists have no facts upon which to base estimates concerning the rate at which changes may take place in the progressive development of species, and therefore their theory of evolution cannot be used to discredit facts established by positive testimony, and we are brought without prejudice to more carefully consider the geological age of the deposit in which the skeleton was found. He reviews the most important points of evidence brought out by the two interpretations, and sustains the arguments presented by Professor Winchell and Mr Upham in all respects, excepting the re-excavation of the channel of the Missouri during the time immediately following the period of excessive deposition of loess near the close of the Iowan stage of glaciation. He believes that during the rising stages of that flood-period the Lansing skeleton was buried beneath the loess, "which accumulated with great rapidity all along the margin of the Missouri River. Owing to the sluggishness of this current and the immense supply of water, the Missouri Valley was filled up with water, so as to present a lake-like expanse covering the bluff on either side during a portion of the year, that is during July, August, and September, when the melting of the Northern ice was going forward with greatest rapidity. But, meanwhile, during even these flood stages, a considerable current existed in the main channel of the valley, so as to keep it clear of sedimentary accumulations."[1]

The extreme high water of this year demonstrated this point clearly. The velocity of the current increased rapidly until the rising waters overflowed the banks and spread over the valley from bluff to bluff, when the unusual acceleration was lost, and the general appearance of the broad expanse became that of a great lake in gentle motion. But it was found that along the line of the main channel the current had fallen very little below its average normal speed, and sustained its burden of sediment for distant points, besides throwing great quantities, consisting largely of fine sand, into the waters covering the entire flood-plain. The main channel received no filling except in such places as were being

[1] This view is not original with Professor Wright, but is a contribution to the discussion made by Miss Owen, from whom he has borrowed it.—ED.

temporarily or permanently abandoned. An alluvial terrace known locally as "the second bottom" is the old flood-plain of the recent past, and further investigation may show the higher terraces to be remnants of the flood-plains of waning stages of the Iowan epoch.

This has long appeared to the writer not only a reasonable supposition, but an absolutely necessary one, since, if the channel were filled to the flood-plain height, there would have been no transporting power to constantly renew the burden of solid matter being rapidly deposited over the flooded regions to either side. Rapid deposition, a vigorous current, and an open channel must each have acted with the other two. Instead, therefore, of the more recent lowering of the channel, as suggested by Professor Chamberlin, the evidence favors a later accumulation of sediment, tending rather to a building up of the channel below the mouth of the Platte.

The latest and most exhaustive study comes from Professor Winchell in the *American Geologist* for May. It is too lengthy to be reviewed here as it tempts, and an incomplete attempt would be misleading, but the fullness of his investigations and the completeness of their results appear to leave no point unanswered or open to the disturbance of further doubt. "Lansing Pleistocene Geology" is subjected to a rigid scrutiny, and to a series of acid and microscopical tests of a character so searching as to suggest a kinship to the precision of mathematical science. The main portion of the article is devoted to the observations and conclusions drawn from his first and second visits to the Concannon farm. These are supplemented by a note from Professor Williston, saying that the shell taken from near the top of the tunnel, which has been so much discussed, is a river clam, and that its original structure has been lost and replaced by a cast,—a fact which he did not recognize at first. The importance of this is, of course, quite obvious in establishing the subaqueous character of the deposit in which it was buried.

Professor Winchell publishes a letter from Professor Todd in which he discusses the article, but is more inclined to accept the views of Professor Chamberlin; also one from Professor Wright, warmly supporting the other view, so far as the limited time he spent at the farm gave him opportunity to form conclusions.

A final appendix is added, giving the further knowledge gained by a third visit of two whole days at the Concannon farm and about the bluffs above and below. By digging pits or trenches, much further information of value was obtained, enabling him to conclude that, "after the deposition of the silt, by wash from the geest [residuary soil] and from the Carboniferous strata and from the Kansas drift, the action of the Iowan ice epoch supervened, resulting in the filling of the Missouri Valley with Iowan loess and its abundant waters."

Professor Winchell's elaborate study of the deposits would seem to demonstrate the existence of glacial man in the Missouri Valley beyond

all intelligent controversy. On the banks of the Missouri, as on those of the Little Miami and of the Delaware farther east in America, and on the Dnieper in Russia, man was a witness to those great and rapid changes of terrestrial conditions connected with the closing stages of the glacial period; thus anew raising glacial geology to a most important rank among the historical sciences.

ST. JOSEPH, MO. LUELLA A. OWEN.

THE REVISION OF GEOLOGICAL TIME.

IN the BIBLIOTHECA SACRA for April, 1884, I published an article entitled "The Niagara Gorge as a Chronometer." This was based upon personal investigations made the summer before, and included a brief discussion of previous opinions upon the subject. Desor had estimated that the rate of the recession of the falls was so slow that the formation of the gorge must have occupied 3,500,000 years. Sir Charles Lyell thought it might have been accomplished in 35,000, but that it probably required 100,000 years,—a surmise which has taken almost complete possession of the popular literature upon the subject, and which even now seems almost impossible to displace. Other investigators—notably Mr. Bakewell in 1846, Dr. Pohlman in 1883, and about the same time Mr. Gardiner of the New York Survey, and Professor A. Winchell—maintained that the rate of recession was as much as three feet a year. My conclusion[1] was that, "from the best light we now have, it seems altogether probable that the cataract is receding at a rate that would suffice to produce the whole chasm from Queenston up in less than 12,000 years; and if, as is not unlikely, any considerable portion of the gorge above the whirlpool had been formed by preglacial agencies, even that relatively short period must be considerably abbreviated. This article was considered of so much importance by Professor James D. Dana, that he immediately requested the privilege of republishing it in the *American Journal of Science*, where it appeared in the number for July, 1884.

Since that time the accumulation of facts bearing upon this subject has been continuously going on, taking a very wide range, and involving, among other things, the question of the permanence of the outlet through the present channel. These investigations (one of the most important of which was conducted by myself) led to the discovery that in early postglacial time the outlet of the Great Lakes was not over Niagara, but from Lake Huron through Lake Nipissing and the Mattawa River into the Ottawa, which enters the St. Lawrence at Montreal.[2] But many indications went to show that the continuance of this Ottawa out-

[1] Bib. Sac., Vol. xli. p. 376.

[2] Bulletin of the Geological Society of America, Vol. iv (1892), pp. 423-427.

let was probably not more than 2,000 or 3,000 years ; so that the extension of the postglacial chronology, from that cause, beyond that given by the Niagara gorge, would not be relatively great. Among the most important of these investigations were those conducted by me, under the direction of the New York Central Railroad, bearing upon the enlargement of the mouth of the gorge at Queenston by the gradual crumbling away of the strata under the action of subaerial agencies.[1]

The attempts which several have made to maintain the longer chronology have been so largely based upon obscure phenomena and theoretical considerations, that they have not carried the weight of scientific opinion, as is shown by two recent utterances of two of the most prominent investigators of the subject; namely, Professor N. H. Winchell, editor of the *American Geologist*, who for many years conducted the geological survey for the State of Minnesota, where the last records of the glacial epoch are extremely abundant and significant, and Professor R. D. Salisbury, of Chicago University, who for twelve years has been conducting the survey of the glacial phenomena in Northern New Jersey.

In the *American Geologist* for September, 1902, Professor Winchell, in discussing the age of the Lansing skeleton, says, "Postglacial time has been computed in various ways, and it has been pretty nearly unanimously agreed that postglacial time does not exceed 10,000 years, and probably amounts to about 8,000 years."

Professor Salisbury's conclusion is found in the fifth volume of the Final Report of the New Jersey State Geologist (1902):—

"The date and duration of the glacial period are matters of the greatest interest, but neither has been determined with numerical exactness. Many lines of calculation, all of them confessedly more or less uncertain, point to the retreat of the last ice-sheet from the northern part of the United States 6,000 to 10,000 years ago. While these figures are to be looked upon as estimates only, there are so many lines of evidence pointing in the same direction that the recency (geologically speaking) of the last glaciation must be looked upon as established. The best data for the calculations which have led to the above results are furnished by Niagara Falls[2] and the Falls of St. Anthony[3] at Minneapolis. In each case, the distance the falls had receded since the ice disappeared, and the present rate of recession are known with some degree of approximation to the truth. Assuming the rate of recession to have been uniform, the above results as to duration of postglacial time for these localities are obtained.

"A strong argument for the recency of the last glaciation is the slight

[1] Popular Science Monthly, Vol. lv. (1899) pp. 145–154; American Geologist, Vol. xxix. (1902) pp. 140–143.

[2] "Gilbert, Science, Vol. viii. (1886) p. 205."

[3] "Winchell, Geology of Minnesota, Vol. ii. p. 313."

modification which the surface of the drift has undergone. This sort of an argument does not easily lend itself to numerical results."[1]

For many reasons it is very important to get these changed views with regard to the recentness of the glacial epoch fully before the minds of the general public. As it is, the persistency of the earlier exaggerated estimates, both of the date of the glacial period and of the length of geological time in general, is giving support to numerous popular misconceptions, detrimental to a true view of history and of God's plan for the salvation of the world. Popular writers have so fallen into the habit of regarding all geological facts as extremely old, that it is difficult to make the general public believe that any geological facts are recent.

This raises in the minds of probably the majority of historians and theological investigators an inveterate presumption against many historical statements which seem to contravene the present order of nature, and results in relegating to the realm of myth and legend such stories as those of the seven years of plenty and famine in Egypt, the destruction of Sodom and Gomorrah, the crossing of the Jordan by the children of Israel, and the Noachian Deluge. This inadequate conception of the recency of that unstable condition of the earth's crust connected with the glacial period renders it impossible for the mass of readers who have been brought up on the antiquated Uniformitarian geology of Lyell and Darwin to appreciate the force of the arguments that are bringing the creation of man down to a comparatively modern period.

The fixing of the close of the glacial period, as Professors Salisbury, Winchell, and others have done, at so recent a date as from 6,000 to 10,000 years ago, brings within the horizon of human history the exceptional activity of physical forces during this period which is needed to account for the extraordinary occurrences involved in the extensive deluge referred to both in the Bible and in the legends of many nations. Evolutionists, also, are beginning to speculate upon the effect of these recent changes in hastening the process which they suppose to have occurred when man emerged from some lower animal. It is curious to see how closely these speculations now approach the old-time historical representations. For instance, Professor J. L. Wortman, of Yale College, who has long been studying the subject from the evolutionary point of view, is credited with the following speculations:—

"'The current teaching as to the origin and later distribution of most forms of higher animal life on the earth is, that the ancestors of most present mammals originated in the present hot regions of the earth, and were distributed to the temperate and frigid regions by emigration. As to man, the college textbooks on anthropology teach that a similar course was pursued: that man evolved from a certain form of higher apes and somewhere in the present hot latitudes, possibly Java or the now sunken

[1] "A summary of the various estimates of the duration of postglacial time is given by Wright in his Ice Age in North America."

Indo-African continent, and that the remains of primitive man found in other parts of the globe were those of the earliest immigrants from this equatorial cradle of the race.

"'Man must have had some reason for his rise. Some impelling force or influence must have been out to produce this amazing development of the simple mind of the ape to the mental stature of even barbaric man. There is such a wide divergence in the intellectual attainment between even the highest ape and the lowest man that any hypothesis that advances a gradual evolution seems to be weak because it offers no reason for the evolution.

"'The intellectual awakening which must have been the fundamental reason for his evolution could not have come without some remarkable change in man's environment at the probable time of his development. Such a remarkable change must certainly be supposed if any logical history of the evolution of man is to be written.

"'As it happens, it is not necessary to suppose this, as we have the unassailable facts with which actually to state it. In my opinion such a cause is to be found, clearly and incontestably, in the attested data of geology itself.

"'This is the fact that the glacial epoch gradually came on, driving the tropical vegetation and mammal life from the north southward. As the only well-attested remains of primitive anthropoids have been found in Europe and Asia, the case seems well established that it was somewhere in these localities that man received his start.

"'Caught between the impassable water barrier on the one hand and equally impassable barrier of advancing cold and retreating tropical environment on the other, man's forerunners found themselves in a predicament. Their only recourse was migration, and that some of the species succeeded in this is fully established by the presence of their descendants in the tropics to-day.

"'But many species were virtually trapped in these peninsulas, and it is not only possible, but highly probable, that these species either succumbed to the advancing cold, or were rapidly modified to meet exigencies of the new conditions. In this category I place the ancestors of man.

"'Trapped in the peninsular areas, where they could not escape, except to invite extinction by facing the unknown area of cold to the north or the sea to the south, the alternatives were presented of either succumbing to the changed environment, or modifying themselves to fit the new conditions. In all likelihood numerous members of these highly developed apes succumbed, and became extinct. Others, a few, survived, through superior mental equipment; and it is at this time, and in this way, that man came upon the scene.'

"The presence of such higher apes as the gorillla, chimpanzee, etc., in Asia and Africa to-day Dr. Wortman explains. He says that a few land bridges existed at that time, as now, between Europe and Asia and

Africa, and that it was southward over these approaches to the present tropical zones that the ancestors of these apes escaped.

"Likewise the great army of ancestors of the other animals retreated over these land bridges, following the tropical forests. A few remained behind, caught as were the apes, and probably changed their habits and even structure to fit the new environment.

"According to this new theory of the evolution of man the place of his origin must be looked for along the southern shores of Europe and Asia. Dr. Wortman says that the nearest approach to man yet found among the fossil ape remains of the old world is the highly developed ape fossil discovered by Lydekker in the Punjab of India a few years ago. He is of the opinion that no better place exists in which to hunt down the link between the anthropoids and man than this same locality.

"Trapped in these peninsulas it is Dr. Wortman's contention that a quick and unprecedented change came over the apes that just preceded man, and that instantly awoke their intellect and spanned the space between the highest apes and lowest man. The first change came in the difference in the nature of the food upon which these trapped apes lived.

"The tropical forests, with their special fruit, were gone or were going; temperate vegetation was quickly taking its place. The apes, accustomed to living in the trees, both to protect better themselves and to find their food, came down to the ground. Then they began to live on nuts and ground fruit, and on sea food.

"Following this change in food came a change in the structure of the animals themselves. Accustomed to the upright position, through the ability to grasp branches with their hands, the immediate ancestors adopted that posture on the ground. Their feet then took on the plantigrade condition of man's. Here was a condition that was capable of instant change to a higher one if the awakening process was begun.

"Dr. Wortman says that this had been begun through the enforced change in habits by the retreat of the tropics, which they were unable to follow. He thinks that this process was continued and the final development induced by the discovery. Just how this came about Dr. Wortman admits can only be surmised."

Those who are not wedded to the theory of evolution, and who fail to see the adequateness of natural selection to produce these astonishing and rapid changes, will, however, be permitted to recognize, in these changing conditions of life produced by the glacial period, much confirmatory evidence sustaining the traditional view that man originated, through supernatural interference, at a comparatively recent time, somewhere in Central Asia, and that he has been subjected in his early history to many vicissitudes of nature which are very unlike those through which he has passed during the so-called historical period.

G. F. WRIGHT.

NOTES ON BRITISH THEOLOGY AND PHILOSOPHY.

THE purpose of these Notes is to put before readers of the BIBLIOTHECA SACRA some points of current interest in connection with theological and philosophical works and movements in Great Britain.

In theology, the large and important work of Professor Flint on "Agnosticism" has just appeared, and is being cordially received. It is marked, as might be expected, by vigor, lucidity, abundant learning, incisive argumentation, love of objective truth, and thoroughness. I merely welcome it, and say nothing of the nature of criticism, not having had time, at date of writing, to read it. One is the more grateful for its appearance in the midst of Dr. Flint's laborious undertaking with the "Philosophy of History." With this work issuing from Scotland, one has only to couple the recent work of Principal Fairbairn, of Oxford, England, on "The Philosophy of the Christian Religion," in order to see how far theological vision is in Britain from being dimmed, or philosophical power from being abated. Dr. Flint is nothing if not rational, Dr. Fairbairn nothing if not intellectualistic, and against the objections of those who care not greatly for such qualities in religious matters, one cannot but feel that it is assuredly well to have such guarantees in these days that intellect will, in this all-imporant sphere, come to its own. It is very gratifying, also, to recall how short a time it is, anterior to these works, since Professor Caldecott, of London, gave us his painstaking and highly meritorious work on "The Philosophy of Religion in England and America."

Dr. Matheson's "Representative Men of the Bible" continues to be read with delight. Dr. Matheson has a long and honorable record behind him in theological and religious literature, and this latest product of his pen is marked by all those gifts of spiritual insight and imaginative power which make his work perfectly unique, and prized as such.

In these days when social interests, rather than doctrinal, occupy the attention of the churches, one can only be thankful to have attention drawn to any of the great doctrinal truths of our religion. Professor Denney, of Glasgow, does this for the Atonement, setting forth anew the place and interpretation of Christ's death in the New Testament in his volume on "The Death of Christ." There is every acknowledgment of the exegetical excellence and the vigor of Dr. Denney's work. But in laying such exclusive stress on the substitutionary character of Christ's death, he is doing a work of doubtful benefit to this country, where external, artificial, and forensic theories of the Atonement so long prevailed, and a work that can by no possibility satisfy the theological needs of the twentieth century. One cannot but be surprised that a theological scholar should, at this time of day, feel content to rest in a true but partial and fragmentary representation of the case, after all that modern thought, especially German theological thought, has done to set the Atonement before us in its vital connections and organic relations. The

whole of this latter teaching is New Testament teaching, also, but it belongs to a deeper layer of Pauline thought than Dr. Denney has pierced or appreciated. This is a pity, for the objections to mere or pure substitution are always with us, and are most surely among the things theological thought should obviate or dissipate. The cross of Jesus is no stupendous and affecting spectacle offered to men, and for men, outside the human race. Christ is the Second Adam, and as Head and First-Born of many brethren, offered up, from within and on behalf of our race, his sacrifice to God. It is no external, unrelated, and unreal transaction, meant to move us only to gratitude. It is not only for our sins, but to bring us to God, that the grace of sonship to the Father, and the joy of Union with the Christ, may be the believer's. So the vicarious aspect of Christ's suffering remains — only in a deeper, closer, more real and intimate way. In its Godward, or objective aspects, this great truth may still run up into mystery, but such mystery as remains for the intellect keeps not sunshine from the heart. We still wait a theory of the Atonement that shall be satisfying to the ethical and rational needs of man.

The death of Dean Farrar removes a prominent figure from the world of religious literature. His career as a scholar was indeed a brilliant one. His learning was large, if not always accurate. His literary work was very great in amount. Much of it was popular rather than scientific or academic, but still of this latter kind of work he did not a little for theology. His "Messages of the Books," "Life of St. Paul," Hulsean Lectures on "The Witness of History to Christ," "Early Days of Christianity," Bampton Lectures on the "History of Interpretation," and "Seekers after God," were among his more valuable works. His "Life of Christ" was a popular and useful presentation. Dean Farrar never came to his own in the great church to which he belonged. It is understood here that some of his eschatological pronouncements cost him a bishopric. It is gratifying, at any rate, that he never lost his sweetness of spirit or assiduity in literary labors. His life remains a great inspiration to the clergy of every church and denomination, as a revelation of the possibilities of the Christian ministry. Archbishop Temple has also passed away, leaving, as his chief contribution to theology, his Bampton Lectures on the "Relations between Religion and Science,"—a clear statement of their harmony.

In philosophy, the publication of the posthumous work on "The Development of Modern Philosophy" has made evident how great a loss British philosophical scholarship has sustained in the death of the late Professor Adamson, of Glasgow. The work is edited by Professor Sorley, and is receiving unstinted praise from our most capable philosophical writers.

In the series of "The World's Epoch-Makers," Professor R. Mackintosh, D.D., Professor of Apologetics in the Lancashire Independent

College, Manchester, has just produced the volume on "Hegel and Hegelianism." The little volume is replete with information that will be useful to readers not versed in larger and more abstruse works. One of the best things in the book is its statement of the relation of Hegelianism to Christianity, for every fresh statement of this question is of interest. In value the book is not behind any volume of the series to which it belongs. I find myself in large accord with Dr. Mackintosh's conclusions. He sees that idealism in some sort must be our philosophy, but also that it cannot be Hegelian idealism. Hegelianism has for him deep truth, and truth we need to know, but not, as its votaries appear to think, the whole truth or the only truth. The future, I think, is with Idealism, but it will be neither this form of idealism nor yet the "personal idealism" lately set forth by a small group of Oxford philosophers, which seems to me too experiential and unsystematic in character, and too personal and limited in horizon. In this connection I may note that the tendency to "pragmatism" or practicalism of some of these philosophers is really a reaction against Hegelian idealistic theory, and that they claim for the "pragmatist" method of looking at reality that it will simplify to a great extent traditional philosophical formulas. Doubtless it will, for those to whom it may be possible to rest satisfied with it. But that will not be easy for our trans-subjective intelligence. The pragmatist, for example, treats truth as having no place apart from "interest." "Truth is subordinate to interest," we are told. But if we know anything, it is that the truths made known to us by the realities of the universe have their existence quite independently of man's interest in them. We must still prefer to think of truth as "subordinate" to evidence," rather than "interest." My apprehension of truth — which is a very different matter — will, of course, be dependent on my interest. We can surely recognize intellectualism, in its extreme forms, to be a mistake, without becoming pragmatists, which, in its extreme form, is no less defective. Intellectualism and pragmatism are best regarded as poles of one great process, and the need is not for any sharply drawn antagonism, but rather for a synthesis of intellect, with its schematizing power, and will, with its fruitful activities. However, without saying more, we shall await with interest the developments of this philosophical tendency.

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THE NEW INTEREST IN CHILD LABOR.

EARLY in the nineteenth century shocking revelations were made in England of the extent to which, in the developing factory system, even very young children were employed at continuous labor. Years of agitation passed before the defense of parliamentary statute was thrown around England's children. The poetic sympathy of Mrs. Browning

and the eloquence of Macaulay were enlisted in the cause before it triumphed. It was necessary to argue seriously against the short-sighted fear that England would lose her industrial supremacy if she did not use the hands of her children in coal-mine and cotton-mill and brick-yard. The nation proved wise enough to forbid dwarfing its future laborers for the sake of a little present gain.

In the United States those parts of the country where the factory system developed earliest were the first to follow England's example. Most of the Northern States have long had laws putting more or less restriction on child-labor. The North often pointed the finger of scorn at the South in this matter. The South had little legislation on the subject. It is but a few years ago that a Southern congressman published over his own name an urgent invitation to Northern manufacturers to come to his State. One of the inducements which he emphasized was the liberty they would find there to use child labor!

But in most of the Southern States agitation is now active and persistent to remedy this gross lack in their statutes. Meanwhile we have become aware of grievous lacks in the laws of the Northern States, and grievous deficiencies in the execution of present laws. It has been brought out by the Coal Arbitration Commission, that Pennsylvania, in spite of laws, employs many more children in her mines and shops than Georgia, which has no laws. Illinois has discovered that many young children have been employed on night work in some of her industries, and has just enacted a new law intended to stop this shame completely. Fortunately her legislators were not deluded by the plea that glass-blowing would be driven out of the State if little children could not be employed in the night-time at the glass-factories. It is a safe proposition that the production of efficient men and women is more important for a State than the production of glass bottles or cheap cotton cloth. We bid Godspeed to our brothers and sisters in Georgia and other States who are making so earnest a fight to secure the practice of this principle. We are ashamed that so much of their opposition comes from absentee owners of industrial stock. The question is nowhere one of merely local interest. The welfare of the nation hangs on keeping childhood sacred to education. We must not suffer it to be swallowed up by wage-earning. If any riches are accumulated by sucking the life-blood of our children, they will be accursed.

> "Ill fares the land, to hastening ills a prey,
> Where wealth accumulates, and men decay."

The new interest in this subject promises better things for the United States. Better citizens in every generation will guarantee continual progress. W. E. C. W.