

- <sup>72</sup>Rusch, S. W. 1966. Analysis of so-called evidence of evolution, *Creation Research Society Quarterly*, 3(1):4.
- <sup>73</sup>Prigogine, et. al. *Op. cit.*
- <sup>74</sup>Glandsdorff, P., and I. Prigogine. 1971. Thermodynamic theory of structure, stability, and fluctuations. Wiley-Interscience, N. Y.
- <sup>75</sup>Williams. 1967. *Op. cit.*
- <sup>76</sup>Lammerts. 1964. *Op. cit.*
- <sup>77</sup>Davidheiser, B. 1971. Science and the bible. Baker Book House, Grand Rapids, Michigan, p. 69.
- <sup>78</sup>Smith. *Op. cit.*, p. 152. (Reference No. 61)
- <sup>79</sup>Fast, J. D. 1962. Entropy. McGraw Hill, N. Y., pp. 47-61.
- <sup>80</sup>Williams. 1966. *Op. cit.* (Reference No. 19)
- <sup>81</sup>Barnes. 1966. *Op. cit.* (Reference No. 32)
- <sup>82</sup>Kittel, C. 1969. Thermal physics. John Wiley and Sons, N. Y., p. 63.
- <sup>83</sup>*Ibid.*, p. 45.
- <sup>84</sup>*Ibid.*, pp. 65-66.
- <sup>85</sup>Jeans, J. 1930. Mysterious universe. Cambridge University Press, p. 4.
- <sup>86</sup>Clark. 1961. *Op. cit.*, pp. 32-35. (Reference No. 44)
- <sup>87</sup>Parker, G. E. 1970. The origin of life on earth, *Creation Research Society Quarterly*, 7:99.
- <sup>88</sup>Henning, W. L. 1971. Was the origin of life inevitable?, *Creation Research Society Quarterly*, 8:59.
- <sup>89</sup>White, A. J. 1972. Uniformitarianism, probability and evolution, *Creation Research Society Quarterly*, 9:32.
- <sup>90</sup>Smith, A. E. Wilder. 1968. Man's origin, man's destiny. Harold Shaw Publishers, Wheaton, Ill., pp. 59-80.
- <sup>91</sup>Coppedge, J. F. 1971. Probability and left-handed molecules, *Creation Research Society Quarterly*, 8:163.
- <sup>92</sup>Grebe, J. J. 1967. DNA studies in relation to creation concepts, *Creation Research Society Quarterly*, 4:25.
- <sup>93</sup>Williams. 1966. *Op. cit.* (Reference No. 19)
- <sup>94</sup>Mulfinger. 1967. *Op. cit.* (Reference No. 30)
- <sup>95</sup>Armstrong, H. 1970. Comments on scientific news and views, *Creation Research Society Quarterly*, 7:121.
- <sup>96</sup>Cousins, F. W. 1970. Is there life in other worlds? A critical reassessment of the evidence, *Creation Research Society Quarterly*, 7:32.
- <sup>97</sup>Penny. 1972. *Op. cit.* (Reference No. 31)
- <sup>98</sup>Holroyd, H. B. 1972. Darwinism is physical and mathematical nonsense, *Creation Research Society Quarterly*, 9:5.
- <sup>99</sup>Armstrong, H. 1970. Comments on scientific news and views, *Creation Research Society Quarterly*, 7:80.
- <sup>100</sup>Moorhead, P. S., and M. M. Kaplan. Editors. 1967. Mathematical challenges to the neo-darwinian interpretation of evolution, The Wistar Institute Press, Philadelphia, Pa.
- <sup>101</sup>Barnes. 1966. *Op. cit.* (Reference No. 32)
- <sup>102</sup>Morris. 1963. *Op. cit.* (Reference No. 24)

## CREATIONISM IN THE TWENTIETH CENTURY

WILLIAM J. TINKLE\*

It may be of value for one who has lived to this point of time in the twentieth century to recount his own experiences and observations along with certain notable discoveries during his lifetime.

At the beginning of the twentieth century this author was a school boy. Evolution, in the United States, was a subject for university professors and theologians; very few others. It was very useful to "infidels" as atheists were then called, and there were vociferous ones. The doctrine, then 41 years old, counting from Darwin's *Origin of Species*, had not yet appealed to the common man.

School books did not discuss the origin of the earth, or the origin of living things. The authors did not mention divine creation or materialistic theories of beginnings, but ignored both of them, taking an agnostic position. The McGuffey readers which my father read were no longer adopted in Indiana, and the readers which replaced them were quite eclectic. They included stories taken directly from the Bible along with selections from literature and history. Geography and history books were mute about beginnings.

Yet as I now look back I am convinced that the net "evidence" for chance beginnings and

mechanical development was stronger then than now, because the difficulties had not yet been discovered.

### Ideas Held Over

Coming now to the beliefs of scientists at the turn of the century, we note certain beliefs of the nineteenth century which still were in vogue. Among these were the inheritance of acquired characters, and recapitulation in embryos.

Characters of living things acquired through the environment, or use or disuse, are recognized now but they are not transmitted to the following generation.<sup>1</sup> This is now recognized even in Russia, where a few decades ago a group with political backing held out for the theory. As for embryos going through the stages of their supposed ancestors, the idea has been dropped by both creationists and evolutionists.<sup>2</sup> The demise of inheritance of acquired characters and recapitulation has made evolution much harder to believe.

### Hero Worship

However, evolution, the doctrine that life arose by chance and became more complex by material forces, is not science but a type of natural philosophy. Science consists of facts but natural philosophy persists in spite of facts, if it satisfies the desires of people about the nature of the world.

\*William J. Tinkle, Ph.D., is professor emeritus of biology, Anderson College in Indiana.

The man who faced the scholars and theologians and changed the world view of the majority, easing their responsibility to God, became, and is, a hero. In the nineteenth century, Charles Darwin was that hero. Even at the present time, Darwin's mistakes are forgotten and his feeble ideas of genetics are lauded.

Charles Darwin's ideas were dominant in the latter half of the nineteenth century. The result was that the influence of the real scientist, Gregor Mendel, was delayed until the twentieth century, 35 years after completion of the basic research.

When Mendel read his paper on inheritance in peas before the Natural Science Society of Brunn in 1865, it was recorded in the minutes of the meeting that there was no discussion. It was also recorded that later in the evening, Alexander Makowsky mentioned "with the utmost enthusiasm" a book written by an Englishman named Darwin six years previously and entitled, *The Origin of Species*.<sup>3</sup> The scientists discussed that book for the balance of the evening; and, all of Europe did the same for the rest of the century. Since 1900 however, Mendel's influence has been tremendous.

It is true that Mendel's paper was published in an obscure journal and that he had but little time for research after he was elected administrator of the monastery where he lived. But the real hindrance was that scholars had accepted the assumption that life arose and developed by natural means, and they were looking for possible methods involved.

### Genetics Versus Evolution

The first decade of the twentieth century was a time of great strides in genetics and cytology. A number of scientists saw clearly that their science pointed away from evolution, but most of them refrained from making an overt break with other scientists. Alfred Russel Wallace, Darwin's close friend and co-worker, said, "On the general relation of Mendelism to evolution, I have come to a very definite conclusion. That is, that it is really antagonistic to evolution."<sup>4</sup> William Bateson (1861-1926) said at a meeting of the American Association for the Advancement of Science at Toronto:

It is impossible for scientists longer to agree with Darwin's theory of the origin of species. No explanation whatever, after forty years, no evidence, has been discovered to verify his genesis of species, . . . We no longer feel as we used to do, that the process of variation, now contemporaneously occurring, is the beginning of a work which needs merely the element of time for its completion; for *even time cannot complete that which has not yet begun*.<sup>5</sup>

Nevertheless, along with this frank statement Bateson gave reason to believe that he still had faith in evolution and hoped some method of its occurrence would be found.

### A Great Decade

Actually, the above statement by that great and honest geneticist in December 21, 1921, along with others resembling it, gave a great impetus to the creationist movement in America. The decade, 1920-1930, was a time of marked and noisy protest by ordinary citizens against evolution.

It was somewhat like the present movement, yet with different spokesmen. The leaders were mostly Christian ministers who were not highly trained in theology. They did well in giving full credit to the Bible, but in criticizing evolution they down-graded science as well. A common slogan was, "It is better to know the Rock of Ages than the ages of the rocks." Present day creationist spokesmen, many of whom are scientists, give due credit to careful study by scientists, but emphasize a real cleavage between science and evolution, calling the latter a naturalistic philosophy.

While my memory may be faulty, I remember only two outstanding leaders of that decade: William Jennings Bryan and George McCready Price. The former was well educated, although not in science, was three times nominated for the Presidency by the Democrat Party, and served as Secretary of State under Woodrow Wilson. As an orator he seldom has been equaled.

G. M. Price was born in Canada, was well educated in languages and philosophy, and taught in several colleges. Through his long life he studied the history of science and reports of geologic exploration, wrote a number of books, and contributed much to the creation movement. Although accused of belonging to no scientific society, he was a member of the American Association for the Advancement of Science and the California Academy of Science. Price was criticized sharply, just as any one else is likely to be who finds fault with a "sacred cow."

The protest of the twenties was directed against those who taught evolution, and Tennessee legislators passed a law against such teaching in the public schools. Such action was taken also in Arkansas and Mississippi.

The trial which was held at Dayton, Tennessee in 1925 to test the law in that state has received much publicity and needs no report except to give some facts which otherwise might not have been mentioned. When W. J. Bryan decided to go to help the prosecution he asked Price to go with him, but the latter declined because of making a trip to Europe.<sup>6</sup> Bryan had not tried a case in court for 20 years and was in

poor health, as evidenced by the fact that he died a few days after the trial.

I have sat in the drugstore where the teacher, John T. Scopes, was persuaded by George Rappleyea, a member of the Civil Liberties Union, to say that he had taught evolution, although he did not remember having done so.<sup>7</sup> In my three visits to Dayton I have learned that residents of that typical small county seat still believe that God created man in his own image.

The three state laws mentioned above have been repealed. A more modern thrust is the ruling of the state of California Board of Education that where evolution is taught, creation also should be presented as an alternative theory. Citizens in other states, notably Texas, are seeking similar rulings.

### Great Men Help Creationists

All through the twentieth century, evolutionists claimed that no educated scientist has believed in divine creation, but that charge is not true. Henri Fabre (1825-1915), a French entomologist, spoke very clearly against evolution. He was well educated but preferred to live simply, devoting himself to his research and writing. This very interesting writer stressed the importance of intelligent design in living things, and that an adaptation must be fully formed and able to function well the first time rather than accruing gradually.<sup>8</sup>

Another very able biologist was Wilhelm Johannsen of Denmark (1857-1927). While his actual beliefs are hard to find, his discoveries disclosed the limits of selection. Johannsen found that large beans when planted usually yield large beans, just as one would expect. But narrowing his research, planting separately large and small beans which had descended from the *same plant*, there was no difference in the size of the progeny.<sup>9</sup> Selection, Darwin's proposed method of supposed evolutionary change, was not effective. Those results, obtained about 1909, have been repeated by other workers and in other species, with the same results.

Since I had been trained by my studies to believe that the greater the selection, the greater the improvement, these results were quite surprising to me. Johannsen showed that selection merely sorts the genes and becomes ineffective when the genes are all alike, even though there may be differences due to environments.

James D. Watson and F. H. C. Crick, in their work which showed the gene to be very complex, and that the trait to be transmitted depends upon a code, have made it hard to believe in evolution by chance.<sup>10</sup> The code resembles a word, and its formation is by action of units of atoms, very much as a word is formed by a proper sequence of letters. It is noteworthy that codes

have never been formed without intelligence.

It is recognized that the proof or disproof of evolution comes from geneticists and geologists. Developments in geology have been disappointing to evolutionists in that gaps between the categories of fossils have not been filled. Just as in living things, no fossil plant or animal forms have been found to bridge the gaps between orders, classes, and phyla. Likewise, after much patient search, no undisputed fossils have been found beneath the Cambrian rocks. These negative results make it easier to turn to the Biblical account of a general creation in the beginning.

### Creationists Organize

Seeing the discrepancy between the claims of evolutionists and established scientific facts, modern creationist scientists and non-scientists have banded together to publicize their views. At present there are many organizations, and only a few will be mentioned.

The Evolution Protest Movement of England founded in 1932 was the earliest organization and has had some good scientists as officers and members. A noted one was Douglas Dewar, an ornithologist who lived in India a long time. This organization has remained firm to the original purpose.

The American Scientific Affiliation was formed in 1941 by one man inviting five scientists to come together while he paid their expenses. These five became the first board of directors. Many creationists having scientific training became members. After a few years the statement of belief was liberalized in order to attract more members and the thrust against evolution was lessened. The subjects chosen for discussion thereafter were the present needs of society.

The Christian Evidence League of Malverne, New York arose in 1946 after the Religion and Science Association had dissolved because of member disagreement over the issue of a possible gap in the record between Genesis 1:1 and 1:2. The League publishes *The Creationist*, which includes a wider range of titles than creation and evolution.

After a number of years, support for creationism seemed to lag. About 1960 I wrote to Dr. Walter Lammerts, asking if we could not do something to increase the amount of work done. He answered, "Give me ten men who are active and we will do more than all others are doing at present."

My reply was that we could find those men; so we wrote to eight men and established the "Team of Ten." We published and helped each other, but Dr. Lammerts soon had a vision of a larger organization. In 1963, at a joint convention of the American Scientific Affiliation and the Evangelical Theological Society, at Wilmore, Ken-

tucky, a group of interested persons worked on the first draft of the Statement of Belief for a new organization, the Creation Research Society. The growth of the organization has been much greater than we expected, and we have never found it necessary to consider changing the Statement of Belief.

The Bible-Science Association with headquarters at Caldwell, Idaho was formed in 1963. This organization publishes a newsletter and sponsors sale of a wide variety of creationist literature. And the Bible-Science Association sponsored a four-day meeting of all creationist groups in the United States at Milwaukee, Wisconsin, October 10 to 13, 1972 which was well attended and set a mile post of progress.

In conclusion, let us consider how the characteristics of the present decade, 1963-1973, are unique. The century-old discussion of creation versus evolution centered in disagreement between scientists and religionists; but as a news writer has well stated, the present argument is between two groups of scientists. Although spokesmen at educational institutions were scarce in the 1920 decade, today there are hundreds of such leaders.

While present creationist organizations have endorsement from many theologians, the outstanding creationists today are scientists. Many of them are young men and women who have detected for themselves the mistakes in evolution, and see that divine creation is a more valid world view.

### References

- <sup>1</sup>Snyder, L. H., and P. R. David. 1957. Principles of heredity. Health, New York, p. 348.
- <sup>2</sup>Moment, G. 1958. General zoology. Houghton Mifflin, Boston, p. 20.
- <sup>3</sup>Iltis, Hugo. 1932. Life of Mendel. Norton, N. Y., p. 178.
- <sup>4</sup>Nelson, Byron. 1952. After its kind. Augsburg Publishing House, Minneapolis, MN, p. 106.
- <sup>5</sup>Price, G. M. 1971. Report on Evolution. C. Wm. Anderson, Editor. Christian Evidence League, Malverne, N. Y., p. 124.
- <sup>6</sup>Personal statement of Price to the present author.
- <sup>7</sup>Scopes, J. T., and J. Presley. 1967. Center of the storm. Holt, Rinehart & Winston, N. Y., pp. 33 and 67. Scopes taught algebra, physics, and chemistry and coached football. He was substitute teacher of biology for a little while.
- <sup>8</sup>A more complete report: Tinkle, W. J. *Proceedings of Indiana Academy of Science*, 65:200 f.
- <sup>9</sup>Sturtevant, A. H. 1965. History of genetics. Harper & Row, N. Y., p. 59.
- <sup>10</sup>Smith, A. F. W. 1970. The creation of life. Harold Shaw Publisher, Wheaton, Ill., pp. 17 and 74 ff.

## THE CREATIONIST AND CONTINENTAL GLACIATION

WILLIAM A. SPRINGSTEAD\*

*This is a review of both catastrophic and uniformitarian writings about numerous facets of glaciology. While the author discusses literature covering many viewpoints, he concludes that the data have best fit with a monoglacial action of reduced scope following the flood of Genesis.*

### Introduction

The Biblically oriented creationist espouses catastrophism. Recognizing the present process rates in their relationship to part of earth's previous history, he is also convinced that there is evidence for global catastrophes in the past. As a Biblical literalist he holds that a devastating flood of global proportions made radical changes in earth's biotic life and crust. Similarly he holds that glaciation produced by catastrophic agencies also occurred, drastically changing parts of the earth.

Frequent criticisms of doctrinaire uniformitarianism have been published in recent years. Articles have appeared in scholarly journals and from the pens of competent scientists calling for new and modified definitions.<sup>1</sup> A new school of

geological thinking, termed neo-catastrophism, has risen. Its proponents recognize evidence for unprecedented process rates in the past.<sup>2</sup> It may be predicted that the adherents of this school will increase in numbers as scholarly research continues to uncover new evidences of catastrophism.

In appraising creationist views on continental glaciation numerous treatments will unfortunately be overlooked. Secular treatments of the subject alone are voluminous. Perhaps more articles have been written on Ice Age geology than on all the other geological ages combined. The reviewer trusts that creationists will therefore take a sympathetic position relative to the task undertaken. He further trusts that readers will make note of any articles overlooked and make them known by subsequent correspondence to the editor and this author.

A major difference between creationists and secular scientists lies in their interpretation of the

\*William Springstead is pastor of the First Baptist Church of Pinedale, Wyoming. He holds the A.B. degree and has undertaken graduate study in history.