

- ¹⁰Pattee, H. H. 1969. Towards a theoretical biology, II. Edited by C. H. Waddington. Aldine Publishing Co., Chicago, p. 268.
- ¹¹Pattee. *Ibid.*
- ¹²Pattee, H. H. 1968. Towards a theoretical biology, I. Edited by C. H. Waddington. Aldine Publishing Co., Chicago, p. 78.
- ¹³Mayr, Ernst. 1971. Letters to the editor, *The American Biology Teacher*, 33 (1): 50.
- ¹⁴Bohm. *Op. cit.*, p. 103.
- ¹⁵Pattee. *Op. cit.*, p. 72.
- ¹⁶Creationists feel that revelation is the only reliable means of determining past events. Testimony by "Someone" who was there should outweigh speculation.
- ¹⁷Smith, J. Maynard. 1969. Towards a theoretical biology, II. Edited by C. H. Waddington. Aldine Publishing Co., Chicago, p. 82.
- ¹⁸Mayr. *Op. cit.*, p. 50.
- ¹⁹Blum, Harold F. 1962. Time's arrow and evolution. Harper & Brothers, New York and Morowitz, Harold J. 1968. Energy flow in biological systems. Academic Press, New York.
- ²⁰Bohm. *Op. cit.*, p. 34.
- ²¹Pattee. See reference 10. p. 279.
- ²²Mayr. *Op. cit.*, p. 49.
- ²³Quoted from Bartlett's familiar quotations.
- ²⁴Lewis. *Op. cit.*, p. 7.

THE SMYRNA FIG REQUIRES GOD FOR ITS PRODUCTION

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Small wasps, male and female, are hatched in a caprifig in closed cells. The male wasp gnaws out of his cell. He then gnaws a hole in the cell of the female and fertilizes her whom he has never seen. The female emerges from her cell and in leaving the fig to accomplish her mission in life she becomes covered with pollen. She enters the fruit fig attempting to lay her eggs, but the fruit fig is built so she cannot lay her eggs, but in exploring the fig she pollinates the fruit-producing fig.

A young wasp lies dormant in a caprifig all winter, but hatches at the exact time to lay her eggs in the summer crop of caprifigs which is necessary to pollinate the fruit. This all requires exact timing which means God controls it.

Introduction

The peoples of the world are in more confusion of mind than at any other time in recorded history. This condition has been mostly caused by the disbelief in the reality of God. Fundamentally, the evolution theory is the principal cause for this lack of belief in God.

One probably cannot restore confidence in God by arguments against evolution alone. However, these arguments are necessary. Possibly the most effective arguments are those that point out in reality those things that cannot be explained by any other presupposition than God.

Naturalistic explanations of the origins of living things take most of the processes for granted. For example, if there had been a satisfactorily complete evolutionary history of other figs, this history would have broken down in the case of the Smyrna Fig. This is illustrated by the difficulties of getting Smyrna figs to bear fruit in California under the new name of Calimyrna Fig.

The Smyrna fig either fresh or dried has about the most delicious flavor of all the figs. For over a century, California had been blessed with the Black Mission Fig and the Adriatic Fig. In the San Joaquin Valley these two kinds of figs were in commercial production and very profitable.

Early History of Smyrna Figs in California

George C. Roeding, the large nurseryman of Fresno, was very anxious to get the Smyrna fig in production in the San Joaquin Valley. He found, however, that many others had brought cuttings of the Smyrna fig into California on numerous occasions. Although the cuttings grew very well the resulting trees would not bear fruit. The young figs when about the size of a walnut dried up and fell off.

In 1880-1882 G. P. Rixford, a publisher in San Francisco, imported 14,000 cuttings of Smyrna figs and gave them away to subscribers as gifts. These cuttings grew rapidly but the mature trees bore no fruit. Numerous other individuals imported cuttings with similar results.

All kinds of theories were advanced to explain why the Smyrna figs would not bear fruit in California. Some thought it was the soil, and others the climate. Roeding did not believe the answer was as simple as that. He learned that in Smyrna when the fruiting fig was beginning to develop fruit, the growers went out into the hills, cut limbs off the wildfig and brought them in to hang in the bearing fruit trees.

This suggested strongly that there must be some insect that is needed to pollinate the fruit fig. About 1890 Roeding had some of the fruit of the wild trees, which now had been named

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caprifig, sent to him. He opened a caprifig and with a toothpick took out some pollen and put it into a fruiting fig still on the tree. With a blowtube, pollen was blown into other living figs. All these pollinated fruits bore good fruit. This convinced Roeding and others that a pollinating insect was needed. Nevertheless, since the Black Mission and Adriatic figs did not need pollination most of the growers did not believe pollination was necessary.

Further Studies of the Smyrna Fig in California

The caprifigation of the Smyrna fig was completely studied and explained by Mr. W. T. Swingle and Dr. Gustav Eisen. On October 3, 1889, Dr. Eisen reported: "When I first announced at a horticultural meeting in Fresno in 1887 my final conclusion about caprifigation and the necessity of importing the *Blastophaga psenes* wasp, I was hooted down."

However, Roeding believed in caprifigation and kept on importing caprifigs until he got the wasp introduced in 1900, and the industry begun. He offered a prize for naming the now successful fig and received the name *Calimyrna*.

The Secret of Caprifigation

When the fruit figs begin to develop, small female wasps about 2.5 millimeters long hatch in the galls or enlarged ovaries of the caprifig fruit. At the same time male wasps hatch in nearby galls. The male wasp finds an enclosed gall containing a female wasp. He gnaws a hole in the gall containing the female and fertilizes the latter. This male wasp has never seen a female wasp and she has never seen him. After performing his only purpose in life he dies and is absorbed by the caprifig.

Who taught the male wasp what to do and how to do it? The only reasonable answer is that God taught him. If evolution was at all involved in the life of this tiny insect, it is highly improbable that his life would have been so short. God had a purpose for its life. When it had played its part, there was no further need for it.

God's purpose was to produce food for man, the birds, and some animals. Every part of the lives of the *Blastophaga psenes* both male and female was planned with exact timing for each step of the many processes so that each occurred exactly at the right time. If any time sequence should fail, the fruit crop for that year would fail and possibly all crops thereafter.

The young female crawls out of the hole the male insect has made and proceeds to leave the caprifig. The pollen flowers are bunched around the outlet of the caprifig. As the wasp escapes she is covered with pollen grains. If perchance she gets into a fresh caprifig when she emerges she lays her eggs in the suitable places as she

finds them, which continues her species.

The fruit grower wants her to do something else than perpetuating the species so he keeps the caprifig trees away from the fruiting trees.

God has planned that the female wasp pollinate the fruit fig. Since there are no other figs to enter the wasp enters the fruit fig. Now the "style" in the fruit is so long that the little wasp cannot lay its egg at the bottom of it as she would had it been a caprifig. But in feeling out the style it is pollinated. This makes the fruit develop and ripen.

The female not realizing that she is accomplishing her life's purpose goes on and on through the first fruit, and on through many others. At the end of the "search" it dies exhausted and frustrated. However, now the fruit figs develop normally and produce seeds which add to its flavor. Up in the hills of Smyrna, and away from the bearing orchards in the San Joaquin Valley, the wasps enter the caprifigs and perpetuate the race of *Blastophaga psenes*.

In the active caprifig the ratio of eggs that produce females, to those that hatch into males, is 10 to 1. Or simply, there are ten times as many eggs that produce females as there are eggs hatching into males. This fact increases the efficiency, as the unfertilized females can gnaw their way out and be just as effective in pollinizing the fruit as their fertilized sisters. Who planned this increase in efficiency? It is improbable according to evolutionary chance. This shows the wisdom of God in producing efficiency.

There are two kinds of fruit produced by the caprifig. The "profici" crop of caprifigs must emerge at the time the fruit figs are coming on. Then the "mammas" figs must carry the dormant embryo wasps all winter and ripen just at the right time to activate the new profici crop, which must pollinate the on-coming fruit crop. Only the figs inhabited by the gall wasps remain on the trees of the caprifig during the winter.

Notice how exact timing must occur. Nothing is left to chance. The mammas caprifig must bring the hibernating wasps ready to emerge in April exactly when the wasps are needed to lay their eggs in the profici crop so in June these eggs will hatch when the edible fruit needs pollination. Then the mammas wasp eggs must be laid in the mammas figs to hibernate over the winter.

If the timing failed in any one of these steps the whole system would break down. God has to hold everything in balance so each part will come on at the right time. Not one of the steps can fail. If the female wasp should happen not to be dusted with pollen, no fruit would develop.

So again we know whose wisdom bunched the pollen flowers in the caprifig around the exit so whatever female wasp emerges she will carry

pollen which she unconsciously needs to pollinate the fruit figs.

To think that all of this exact pattern resulted from evolutionary chance is preposterous. Without God nothing like the Smyrna fig could exist. Now common sense would indicate that such an involved arrangement as the Calimyrna Fig could not have originated by the chance reactions of unguided and purposeless forces in nature. Only God could have planned such a complicated set-up, and made it work.

This study emphasizes what evolutionists for-

get, the *purposes* of creation. Evolutionists pretend that things arise by chance without a definite purpose or a completely thought out plan. But God always has a purpose for his creations and definite detailed plans that he can make work.

Suggested Readings

- Sisson, Robert F. 1970. The wasp that plays cupid to a fig, *The National Geographic Magazine*, 138(5):690-697, November.
 Condit, I. J. 1947. The fig book. Cronica Botanica, Waltham, Mass.

COMMENTS ON SCIENTIFIC NEWS AND VIEWS

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Microtubules and Creation

Recently I read somewhere in some Creationist literature that, at the time when a certain evolutionary theory was proposed, people supposed that the cell was about as complicated as a ping-pong ball. Whereas, of course, scientists are still learning about its complexity.

One fairly recent discovery is that of microtubules in the cell. These seem to be found in many or most cells, and to have a certain resemblance to the circulatory systems in larger creatures. Indeed, one might have guessed that something of the sort would be found; for there is a tendency for features found on a large scale to be repeated, in an analogical way at least, on a smaller scale. One is reminded of the old philosophers, with their interest in comparing the macrocosm and the microcosm; indeed, they went farther on less evidence than modern men have done.

One difference seems to be that the microtubules in the cell. These seem to be found in features like the circulatory organs. The discovery of the microtubules, it might be mentioned, depended on the electron microscope; for their diameter is typically 2×10^{-6} centimeters, about one thirtieth the wavelength of visible light.

It appears that the microtubules are direction markers, keeping the cell in shape and guiding the internal transport of materials.¹ It is pointed out that: "... microtubules ... do not assemble themselves at random ... [but] very precise mechanisms exist for determining when and where microtubules are made."

The point of all of this, of course, is plain: how could living cells, in all of their complexity,

conceivably have arisen by some accidental course of dead material? Merely to state the matter, putting in for "cell" a description of the cell in all of its complexity, would be to expose the absurdity of supposing that such a thing could happen.

Yet the evolutionary theory absolutely needs it to have happened. For if not, there must have been a supernatural intervention into the course of things at least once, for life to be started at all. But if once, why not oftener?

Why not wield Ockham's razor, to cut out the transformations between kinds (the alleged ones, that is), for which there have never been really convincing explanations anyway? If we admit one Creation, we may as well admit the separate creation of the various kinds. Indeed, there have been those who have held just that, not on Scriptural grounds but because the evidence points that way. And certainly a Creator who could create one kind of creature could as easily create many kinds.

May I add one remark, having to do now with my own study: physics? Is it possible that, just as the study of living things erred by underestimating their complexity, so are physicists doing about the thing with which they are concerned? Is it possible, for instance, that our notions of atomic structure (a matter which can scarcely yet be said to be free from difficulties) are enormously over-simplified? If we hold that God made atoms as well as cells, when the cell turns out to be enormously complex, we should not be surprised to find some complexity in the atom.

Earthworm Sexuality Defies Evolutionists

Recently I have been reading a book by E. Gibbons, an authority on wild foods. He had occasion to comment in one place on earthworms (not that he was advocating them as wild food).

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