

the whole, and ultimately to error. This booklet achieves Scriptural synthesis, breadth, brevity and simplicity, all required when writing on this vital

subject. This short but powerful publication is commended to all, and especially to those young in the Truth.

Science

The diving specialist*

David Burges

Gannets feed on fish which live in shoals. They have to dive into the water to catch them. They are equipped with special features that allow them to do this successfully. Such features would be recognised as intelligent design in a man-made machine, thus supporting the contention that the gannet shows evidence of creation by God.

THE WORKS of the Creator seen in nature are a constant testimony to His existence and His wisdom. A thrilling experience at various sites around the coast of the British Isles, as well as of North America, Australia and New Zealand, is to see a group of gannets diving into the sea, hunting for fish. This writer vividly remembers watching this spectacular sight some years ago on the Scottish island of Mull. Northern Gannets (*Sala bassana*), found around the North Atlantic, are large seabirds with a wingspan of up to two metres. They are predominantly white,

with black wing tips and yellow heads, and long, sharp beaks. They nest on cliffs, often in large colonies with hundreds of thousands of pairs.¹

Taking the plunge

Gannets share with a few other species, such as boobies and some terns, the technique of plunge-diving to catch their prey, but they are the true diving specialists. The birds glide and soar with a minimum expenditure of energy, looking for fish beneath the surface of the sea. They mainly feed on herring, mackerel and sand eels, which live in shoals and so are more easily seen from above. Having located a target they dive from a height of about thirty

* My thanks are due to Brother John Hudson for bringing this subject to my attention.

1. <http://en.wikipedia.org/wiki/gannet>.

**A Northern Gannet
(*Sala bassana*)
over the North Sea.**

Picture: Andreas Trepte/
Wikimedia Commons



metres, with wings swept back but still extended to steer them towards the target. At the last moment the wings are folded right back to make the bird like a streamlined bullet as it enters the water at speeds up to 100 kilometres per hour.² Measurements have shown that it hardly slows as it pierces the surface, and the dive can carry it to a depth of around ten metres. Recent research using an upward-looking echo sounder mounted on an unmanned underwater vehicle has shown that Northern Gannets typically reach depths of nineteen metres, and can even achieve twenty-five metres, swimming with their wings to reach these greater depths.³ They then use their natural buoyancy to return to the surface with their capture.

Special adaptations

It is fairly obvious that, to be capable of entering the water at such a speed, the gannet must have a number of special features, in addition to its streamlined shape and exquisite timing, in order to avoid serious injury. These can be listed as:

- exceptional gliding and soaring flight capability to locate prey
- rather small flight muscles to allow for small cross-section when diving
- eyes positioned on the front of the face, providing binocular vision for accurate guidance and judgement of distance
- eyes provided with protective membranes
- nostrils that enter into the bill rather than opening to the outside directly
- jaws capable of closing hermetically
- large numbers of air sacs around the skull and breast to cushion the impact with the sea
- a double layer of bone around the base of the bill for added strength.

Clearly all of these features combine together to form a 'design solution' to the needs of a bird diving at high speed into the water to catch its prey.

As so often with such specialised adaptations, when considered all together they give the overwhelming impression of having been carefully selected to meet every need of the creature in performing its particular unique behaviour pattern. That is, intelligence has clearly been exercised in the design of the creature, in this case the gannet. On the other hand, Darwinists simply attribute all of these features to 'evolution', without being able to give any detailed description of how this might have occurred. There is, in fact, a fairly extensive fossil record of birds from the gannet family,⁴ but, apart from making speculative connections with other seabird species, no hard evidence is advanced for the appearance of specific features. We could imagine that any one of these features might possibly have occurred as the result of a random mutation, but it would normally convey little selective advantage on its own and might even be a disadvantage. And the chances of all appearing together at the same time are vanishingly small.

In reality, the position of the creationist, that all of the gannet's unique anatomical features are actually the product of Divine wisdom and intelligence, is much more robust and logical than that of the evolutionist. And the marvel of the gannet's plunge dive is adequately encompassed by the words of Moses: "So God created the great creatures of the sea and every living and moving thing with which the water teems, according to their kinds, and every winged bird according to its kind. And God saw that it was good" (Gen. 1:21, NIV).

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2. Some impressive video clips of gannets diving can be viewed on YouTube.
 3. Brierley and Fernandes, *The Auk*, Apr. 2001, p. 529; Ropert-Coubert et al., *J. Avian Biol.*, 2009, pp. 380-7.
 4. <http://en.wikipedia.org/wiki/Sulidae>.

God challenges Job

Doth the hawk fly by thy wisdom,
and stretch her wings toward the south?
Doth the eagle mount up at thy command,
and make her nest on high?
She dwelleth and abideth on the rock, upon
the crag of the rock, and the strong place.
From thence she seeketh the prey,
and her eyes behold afar off.
Her young ones also suck up blood:
and where the slain are, there is she.

(Job 39:26-30)