

Creation and Intelligent Design



Week 8

Wonders of
God's Design

Part III

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Bees



- Bees are **deaf**
- Have **five eyes**, two with almost 7000 receptors
- Eyes extremely sensitive to **movement**
 - Movie frames appear as distinct, still images to bees
- Urban legend: Bees shouldn't be able to fly
 - Aerodynamics are all wrong
 - Wings too small to generate required lift
- Fact: Bees fly!
 - Over-the-back “clapping” generates lift for takeoff

Bees and Pollen

- While getting **nectar**, a bee's hairy body picks up **pollen**
- Bee moves to another flower, the pollen rubs off and **pollinates the new flower**
- So effective, bees have special **brushes** on their knees to **keep them from drowning** in pollen!
- A perfect example of a **symbiotic relationship**
 - The flower and the bee **need each other to survive**



Very hard to explain symbiosis with evolution!

Bees and Flowers

- Bees see **color** differently than humans
- Sensitive to ultraviolet light
- “Secret” markings on flowers attract the bees
- They seem **designed** for each other!



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Hive Life of Bees

- Bees live in **darkness** inside the hive
- Perfect example of **“hive mind”**
 - A bee lives about **6 weeks**
 - Generally **unaware** of colony as a colony
 - Bee’s **memory** lasts about 6 days
 - Colony’s memory lasts **3+ months!**
- **Caste system** with strict social rules
 - Workers: Hunters, builders, brooders, drones
 - Only the **drones** are **male**
 - A single queen gives birth to all other bees in hive
 - 100 or so **drones** exist **exclusively for mating**
 - Successful suitors **die** shortly after mating (**explode**)
 - Remaining drones are **kicked out** before winter (to conserve food)



Bee Communication



- Communicate via **pheromones**, **dancing**
- Hunters fly around looking for **food**
 - Pollen, nectar, and water
- They return and **dance** to tell others where to find the food
- **Circular** dance: food is within ~100 yards
- **Figure-eight** with “**waggle**”: food farther away
 - **Direction** during waggle indicates **direction** to fly (adjusted throughout the day for movement of sun!)
 - **Number** of waggles indicates **distance**
 - **Intensity** of waggle indicates **desirability of food**
 - If **surplus** exists, bees **won't waggle at all!**
- No evidence the dance is taught
 - It appears to be **inborn!**
- Part of an “**irreducibly complex**” system

Bee Dance



Symbiotic Relationships and Mutualism

- Symbiotic relationships (“living together”)
 - Involves two or more organisms
- Mutualism
 - Symbiosis where **each species benefits**
- *Obligatory* mutualism
 - At least one **cannot survive** without the other
 - Termites and protozoan
 - Fig and fig wasp
 - Ants and Bullhorn Acacia
 - Many others

Cleaner Fish

- 45 species of fish, 5 species of shrimp act as “cleaner fish”
- Remove parasites, diseased/damaged tissue
- Live on tropical reefs
- Individual cleaners set up “cleaning stations”
- Some fish swim **great distances** to be cleaned
- Often fish **line up** and wait their turn
- Cleaners are very **meticulous**
 - Even entering the mouths or gills of voracious **predators** (grouper, snapper, moray eels)
- Again, **puzzling** how this could have evolved

Potato Cod with
Cleaner Wrasse

Cleaner Fish

OCEANFOOTAGE

Moray Eel and
Cleaner Shrimp

OCEANFOOTAGE



Men and Women

- Symbiotic relationship here, too
- Some physical dependence, but **more** about emotional dependence and support

*Then the LORD God said, “It is not good for the man to be alone. I will make him a helper suitable for [Lit. **corresponding to**] him.”*

Gen 2:18

...a man...shall cleave to his wife; and they shall become one flesh.

Gen 2:24

Consequently they are no longer two, but one flesh. What therefore God has joined together, let no man separate.

Matt 19:6

Man and God

- With Christ, **eternal life** *with* God
- Without Christ, **eternal separation** *from* God

...man does not live by bread alone, but man lives by everything that proceeds out of the mouth of the LORD.

Deut 8:3b

I know, O Lord, that a man's way is not in himself; nor is it in a man who walks to direct his steps.

Jeremiah 10:23

“Hive Mind” (Revisited)

- **Groups** behaving **differently** than individuals
- **“Emergent behavior”**
 - Behavior **only emerges** when group is together
 - Behavior benefits **group**, not the **individual**
 - Actions are often **bad for the individual** but the **group can’t survive** without it
- **Very hard** for evolution to explain this
- Not so hard if you understand something of **God’s Mind...**



“God’s Mind”

They all [God’s creatures] wait for You to give them their food in due season. You give to them, they gather it up; You open Your hand, they are satisfied with good. You hide Your face, they are dismayed; You take away their spirit, they expire and return to their dust. You send forth Your Spirit, they are created; and You renew the face of the ground.

Psalm 104:27-30

All part of **God’s design**—His Spirit is in all living things.
Similar to the **Church**—all members of one body (Rom 12)

Members of the Lord's Church

- *“Pray for one another”*
- *“Live in harmony with one another”*
- *“Be devoted to one another”*
- *“Accept one another”*
- *“Instruct one another”*
- *“Be kind and compassionate to one another”*
- *“Build up one another”*
- *“Love one another”*

And let us consider how we may spur one another on toward love and good deeds. Let us not give up meeting together, as some are in the habit of doing, but let us encourage one another ...