

# AI-03058 Intentional Stance

Owner	© Rigel Arcayan
Tags	Psychology
Created time	@October 3, 2025 9:59 AM

## What is the concept of intentional stance. Perform an IS analysis of cycling.

The intentional stance (IS) is a strategy for predicting and explaining the behavior of an entity—whether a person, animal, or machine—by attributing to it "intentional states" like beliefs, desires, and intentions. Coined by philosopher Daniel Dennett, it is one of three predictive stances, alongside the physical and design stances.

- The physical stance involves predicting an object's behavior based on its physical properties and the laws of physics. For example, predicting where a thrown ball will land by analyzing its weight, velocity, and air resistance.
- The design stance involves predicting behavior based on the object's design or function, without needing to know its internal physical makeup. For instance, you know a calculator will display the correct answer to "2+2" because of how it was designed to function.
- The intentional stance is the most abstract and is used when the other two stances are too complex or impractical. It assumes the entity is a rational agent that acts to further its goals based on its beliefs and desires. For example, we predict a friend will go to the kitchen because we attribute to them the belief that there is food there and the desire to eat.

### Psychological Pillars

The psychological pillars of the intentional stance are foundational concepts that allow us to adopt this predictive strategy. They include:

- Beliefs: We attribute beliefs to an agent based on what we think they should have, given their sensory inputs and past experiences. These are mental representations of the world.

- Desires: We assume an agent has desires—goals or aims—that are rational and beneficial for its survival or purpose.
- Rationality: The intentional stance operates on the core assumption that the agent is a rational actor, meaning it will choose the most logical course of action to achieve its desires in light of its beliefs.
- Folk Psychology: The intentional stance is closely related to "folk psychology," which is the everyday human ability to explain and predict behavior by talking about mental states. It's an intuitive, though not necessarily scientifically rigorous, way of making sense of others.

The intentional stance isn't about whether these entities actually have beliefs and desires in a metaphysical sense. Instead, it's a practical and powerful tool for making predictions, even when dealing with systems as complex as humans or as simple as a thermostat.

The 4 biggest ideas in philosophy, with legend Daniel Dennett for Big Think+ This video is a relevant interview with Daniel Dennett where he discusses his work at the intersection of philosophy and science, including the intentional stance.

YouTube video views will be stored in your YouTube History, and your data will be stored and used by YouTube according to its Terms of Service

Great question. Let's break this down clearly and then apply intentional stance (IS) analysis to cycling.

## 1. Concept of the Intentional Stance

The intentional stance is a concept by philosopher Daniel Dennett. It's a way of explaining and predicting behavior by treating an entity as if it has beliefs, desires, and intentions, even if it might not literally have them.

Instead of analyzing raw mechanics (physical stance) or information processing (design stance), the intentional stance simplifies things:

- Beliefs → what the entity knows or assumes.
- Desires/Goals → what the entity wants to achieve.

- Rationality assumption → the entity will act in ways consistent with its beliefs to fulfill its desires.

Example: If I say, "The chess program wants to protect its queen, so it moves the pawn," I'm using the intentional stance. The program doesn't "want" anything, but the stance helps predict its moves.

## 2. Intentional Stance Applied to Cycling

Let's apply IS to a human cyclist. Instead of focusing on biomechanics or physics alone, we describe cycling in terms of beliefs, desires, and rational strategies.

- Beliefs
  - The cyclist believes that pedaling harder makes the bike go faster.
  - The cyclist believes braking slows them down safely.
  - The cyclist believes that staying hydrated sustains endurance.
  - The cyclist believes the route is safe or optimized.
- Desires
  - The cyclist desires to reach a destination (commute).
  - Or desires to win a race (competition).
  - Or desires health/fitness (training).
  - Or desires joy/escape (recreation)
- Intentional actions (predicted behavior)
  - If the cyclist desires speed, they will crouch into an aerodynamic position.
  - If the cyclist desires safety, they'll brake at intersections.
  - If the cyclist desires endurance, they'll pace and fuel strategically.
-

By attributing beliefs and desires, we can predict behavior without calculating the physics of torque, drag, or metabolism.

### 3. Layers of Cycling Analysis

- Physical stance: Analyze leg muscles contracting, energy transfer to pedals, balance, gyroscopic forces.
- Design stance: See the bike as a machine designed for motion; gears are for mechanical advantage, brakes for stopping.
- Intentional stance: Treat the cyclist as an agent with goals (win, commute, exercise), and predict actions accordingly.

### 4. Example Intentional Stance Scenarios in Cycling

1. Commuter: Believes traffic is heavy → desires to avoid it → chooses bike lane.
2. Racer: Believes drafting saves energy → desires to conserve power → stays behind another rider.
3. Fitness rider: Believes interval training improves  $VO_2$  max → desires long-term fitness → pushes hard up hills.
4. Tourist: Believes a scenic route is more enjoyable → desires experience → takes detours despite longer time.

✓ Direct Answer: The intentional stance is a predictive strategy where we treat an entity as if it has beliefs and desires, to understand and anticipate behavior.

✓ Applied to cycling: A cyclist can be seen as an agent with beliefs (about traffic, terrain, body limits) and desires (speed, health, fun, safety), which guide their rational cycling behavior.

Would you like me to expand this into a 22-example table of cycling intentional stance scenarios (like we did in your other explorations), covering commuting, racing, training, and recreation?

**IS applied to swimming.**

## IS applied to lifting weights

## IS applied to making new friends

Perfect — let's apply Daniel Dennett's Intentional Stance (IS) systematically to swimming, lifting weights, and making new friends.

I'll keep the same structured approach: Beliefs → Desires → Predicted Actions (intentional stance), while contrasting with the other two stances (physical and design).

# 1. IS Applied to

## Swimming

- Beliefs
  - Swimmer believes that proper breathing timing prevents exhaustion.
  - Believes that certain strokes (freestyle vs breaststroke) are more efficient depending on context.
  - Believes water resistance slows movement if form is sloppy.
- Desires
  - To finish a lap faster (competition).
  - To sustain distance without fatigue (endurance).
  - To relax or meditate (recreation).
  - To be safe in deep water (survival).
- Predicted Actions (from IS)
  - If desire = speed → streamline body, minimize drag.
  - If desire = endurance → pace breathing, conserve energy.
  - If desire = recreation → float, glide, enjoy.

- If desire = safety → stay near shallow end or conserve energy treading.
- Contrast with Other Stances
  - Physical stance: Hydrodynamics, buoyancy, muscle contraction.
  - Design stance: Swim strokes as engineered techniques for efficient movement.
  - Intentional stance: "The swimmer wants to reach the wall quickly, so she kicks harder."

## **2. IS Applied to**

### **Lifting Weights**

- Beliefs
  - Believes progressive overload builds strength.
  - Believes correct form prevents injury.
  - Believes rest between sets restores energy.
- Desires
  - To build muscle mass.
  - To increase strength for sports performance.
  - To maintain health/fitness.
  - To enhance appearance/self-confidence.
- Predicted Actions (from IS)
  - If desire = strength → progressively lift heavier with low reps.

- If desire = hypertrophy → moderate weights, higher reps.
- If desire = safety/health → use moderate loads, prioritize form.
- If desire = aesthetics → target specific muscle groups.
- Contrast with Other Stances
  - Physical stance: Analyzing torque, muscle fiber recruitment, ATP use.
  - Design stance: Barbell designed to resist gravity; machines engineered for isolation.
  - Intentional stance: "He lifts heavy because he wants to get stronger."

## **3. IS Applied to**

### **Making New Friends**

- Beliefs
  - Believes that showing interest builds trust.
  - Believes reciprocity (listening + sharing) strengthens bonds.
  - Believes that humor eases tension.
- Desires
  - To expand social network.
  - To find companionship or belonging.
  - To collaborate (study, work, hobbies).
  - To gain emotional support.
- Predicted Actions (from IS)

- If desire = companionship → initiate conversations, show empathy.
  - If desire = network → attend events, exchange contacts.
  - If desire = trust → disclose personal details gradually.
  - If desire = joy → engage in shared fun activities.
- Contrast with Other Stances
    - Physical stance: Voice vibrations, facial muscle contractions during speech/smiles.
    - Design stance: Language as a communication tool designed for information exchange.
    - Intentional stance: "She asked questions because she wanted to connect."

✔ Direct Answer:

- Swimming (IS) → The swimmer has beliefs about water, breathing, and stroke efficiency, desires like speed, endurance, or relaxation, and acts accordingly.
- Lifting Weights (IS) → The lifter has beliefs about training methods, desires like strength or aesthetics, and chooses weight, form, and frequency.
- Making New Friends (IS) → The person has beliefs about trust and reciprocity, desires for companionship or support, and engages in social behaviors to fulfill them.

Would you like me to expand each into a 22-example table (like your earlier requests) so you can compare how the intentional stance plays out across sport, fitness, and social domains?

### **IS applied to early retirement**

Excellent angle. Let's apply Daniel Dennett's Intentional Stance (IS) to early retirement, treating the retiree as an intentional agent with beliefs, desires, and rational strategies.

# **1. Concept Refresher**

- Physical stance → Biological/physiological facts (body aging, declining energy, health metrics).
- Design stance → Financial tools, retirement systems, investment vehicles, healthcare structures.
- Intentional stance → The retiree is treated as someone with beliefs about money, health, time, and desires for freedom, security, or meaning, which guide their post-work behavior.

## **2. IS Analysis of Early Retirement**

### **Beliefs (Cognitive Models Retiree Holds)**

- Believes savings/investments will sustain lifestyle without work.
- Believes health and time are more valuable than more income.
- Believes earlier freedom allows pursuing passions (travel, hobbies, volunteering).
- Believes markets, pensions, or passive income sources will remain stable enough.
- Believes working longer might reduce quality of life.

### **Desires (Motivations/Goals Driving Retirement Decision)**

- Desire for autonomy → to control daily schedule.
- Desire for health preservation → reduce stress, avoid burnout.
- Desire for relationships → spend more time with family/friends.
- Desire for purpose → pursue meaning outside of career.
- Desire for enjoyment → travel, sports, hobbies, personal growth.

### **Predicted Actions (Behavior from IS)**

- If desire = financial security → maintain budget discipline, monitor markets.
- If desire = freedom → decline work opportunities that restrict schedule.
- If desire = relationships → relocate near children or community.

- If desire = purpose → volunteer, mentor, or create projects.
- If desire = enjoyment → spend more on travel, sports, or lifestyle experiences.

### 3. Example Scenarios (Intentional Stance in Action)

1. Believes “time is finite” → desires life experiences → travels extensively in first retirement years.
2. Believes “markets can fluctuate” → desires stability → keeps a large cash buffer.
3. Believes “work was stressful” → desires peace → avoids taking consulting gigs.
4. Believes “relationships matter most” → desires family bonds → becomes grandchild caregiver.
5. Believes “skills should not go to waste” → desires impact → mentors younger professionals.
6. Believes “health is fragile” → desires longevity → invests time in swimming, cycling, fitness.

### 4. Contrast with Other Stances

- Physical stance: Early retirement seen in terms of biological decline (aging, lower stamina, need for healthcare).
- Design stance: Early retirement as a system output — savings rate, withdrawal strategy, social security rules, healthcare coverage.
- Intentional stance: “She retired at 55 because she wanted more time with her family and believed she had enough saved.”

 Direct Answer:

The intentional stance applied to early retirement treats the retiree as an agent with beliefs about money, health, and time, and desires for autonomy, purpose, and enjoyment. Their behavior (investing conservatively, declining extra work,

pursuing hobbies, traveling, mentoring, or focusing on health) follows rationally from these beliefs and desires.

Would you like me to create a 22-example IS table for early retirement (similar to your structured requests before), showing concrete retiree beliefs → desires → actions across finance, health, relationships, and meaning?