



CHAPTER X

Other People

“Moral education is impossible apart from the habitual vision of greatness.”

Alfred North Whitehead, *The Aims of Education and Other Essays*

🔴 The Red Block

A playroom, a rainy Saturday, two two-year-olds and about forty toys. Felix has spent twenty minutes with a toy fire engine. A plain red wooden block sits on the rug beside him, and he hasn't looked at it once.

His friend Ruby picks up the red block.

Felix drops the fire engine. He wants the block, and he wants it now, and when Ruby won't give it up he wails as though something has been taken from him. His father, a reasonable man, finds an identical red block in the bin and offers it. Felix pushes it away. He doesn't want a red block. He wants *that* red block, the one Ruby wanted.

Seven years later Felix is nine, and his cousin Daniel is sixteen. Daniel is rebuilding an old bicycle in the garage, and Felix spends a whole July weekend crouched beside him, handing him wrenches and asking what each part does.

By August Felix has taken apart his own bike, and put most of it back together. What he wants is to know what Daniel knows.

Five years after that, Felix is fourteen, and his best friend Owen is the only person in eighth grade who scores higher in math. Felix starts working problems at night. The problems themselves don't interest him much. Beating Owen on the next test does. For a semester the two of them trade the top score back and forth. Then Owen pulls ahead and stays there. Felix decides he's "not a math person," and by spring he has stopped trying.

Three scenes, one boy, and one force running through all of them: Felix wants what someone else wants. In the playroom it made a block precious. In the garage it turned into curiosity about how bicycles work. In eighth grade it made math precious, and then it took math away.

This chapter is about the drivers that come from other people: models, rivals, partners, an audience, belonging, praise, and the bond with a teacher. They're the oldest drivers there are. For most of human history, they were the curriculum. The question here is the one Chapter 9 put to every outside driver: does it point at the object, or does it hold attention on itself?¹ With other people, the answer depends almost entirely on where the other person stands.

✿ The Triangle

René Girard (1923–2015), a literary critic and anthropologist, spent a long career on a single idea. Human desire, he argued, is **mimetic**. People rarely want things on their own; they want what their models want. Desire runs in a triangle, from the learner, through a model, to the object.

Girard found the triangle first in novels (*Deceit, Desire, and the Novel*, 1961). Don Quixote sets out to be a knight because the hero of his books, Amadis of Gaul, was one. Emma Bovary wants the passions she has read about in romances. Stendhal's social climbers want whatever their rivals want, and want it more the moment a rival does. We like to think our desires are our

own. Girard thought most of them are borrowed, and that the great novelists were the writers honest enough to show it.

External and Internal Models

The triangle has two shapes, and the difference between them is the most useful idea in this chapter.

In **external mediation**, the model stands outside the learner's world: a hero, a historical figure, an adult far ahead. Don Quixote can imitate Amadis forever without competing with him for anything, because Amadis is in a book. You can want to do physics the way Einstein did without ever competing with him for a grant. Desire passes from model to learner and keeps pointing at the object.

In **internal mediation**, the model stands inside the learner's world: a peer who wants the same thing. Now the model is also an obstacle, because there is one top score, one starting position, one red block. An internal model becomes a rival. And in rivalry, Girard noticed, the object tends to disappear. The rivals come to want each other's standing, and the thing itself stops mattering. Felix didn't care about the block. By eighth grade he didn't care about math. He cared about Owen. Girard called desire for another person's standing **metaphysical desire**, and he thought it was the most powerful and the most destructive kind.

Felix's three scenes are the three positions. In the playroom, an internal model made an object precious for a moment. In the garage, an external model passed on a real interest. In eighth grade, an internal model became a rival, and the object vanished between them.

The Evidence, and a Limit

Girard built his theory from novels, myth, and history, and parts of it, especially his account of scapegoating and religion, remain contested. The core claim about imitative desire has experimental support. People rated objects as more desirable after seeing them as the goal of another person's action, and the effect ran through the brain systems for observing action and

assigning value (Maël Lebreton and colleagues, 2012). The research on prestige later in this chapter points the same way.

Pushed too far, though, Girard’s theory makes every desire look borrowed and every influence corrupting. It works better as a lens than as a law. A young woman who becomes a nurse because she admired the nurse who cared for her grandmother is imitating, and she may be doing exactly the right thing. Imitation is how culture passes from one generation to the next. The question is never whether learners will imitate. They will. The question is whom, and from what distance.

🍷 The Same Desire, Two Ways

As in the last chapter, hold the driver still. Here it’s the wish to be like someone. In each pair, a learner is moved by another person. Only where that person stands changes.

The Violin

	INTERNAL MODEL: THE GIRL IN THE NEXT CHAIR	EXTERNAL MODEL: THE SOLOIST
What the learner watches	Whether her rival’s bow arm is better than hers	How the soloist makes a long note sing
What she practices	The passages the rival plays well	The passages that sound like the recording
When the rival improves	She feels it as a loss	There is no rival
What she wants	The first chair	The sound
What lasts	A seat in an orchestra, for a while	A way of listening, and a reason to keep playing

The Science Fair

	INTERNAL MODEL: THE CLASSMATE WITH THE RIBBON	EXTERNAL MODEL: THE SCIENTIST WHO VISITS
Where the question came from	Whatever won last year	Something the visiting scientist said she still wonders about
What the project is for	Beating the ribbon-winner	Finding out
What happens after judging	Interest ends with the result	The question gets a sequel
What lasts	A ribbon, or a grudge	A question, and a sense of how real scientists hold one

In each pair, the learner is driven by someone else. The external model keeps the object in view. The internal model replaces it.

 Models

Whom Children Watch

Children don't imitate just anyone. Maciej Chudek, Sarah Heller, Susan Birch, and Joseph Henrich (2012) had three- and four-year-olds watch two adults use objects. Bystanders watched one of the adults attentively and ignored the other. The children were more than twice as likely to learn from the adult the bystanders had watched, and the effect was specific to the kind of activity that adult had been doing. Even at three, children watch whom the room watches.

Joseph Henrich and Francisco Gil-White (2001) argue that this is an ancient arrangement. Humans have two routes to status. **Dominance** is taken by force or threat, and people defer to it out of fear. **Prestige** is given freely, to people who are good at something, and people defer to it in exchange for access: the chance to stand near the skilled person and copy them. On this view, admiration is a learning device. It sends the learner toward the people most worth learning from.

The device has a weakness. Prestige is a signal of skill, and signals can be faked or misread. A child who watches whom the room watches will learn from the most popular person in the room, who may be popular for reasons that have nothing to do with skill. The design question is who the room is watching.

Copying What Doesn't Matter

Show a child how to get a toy out of a clear puzzle box, and include a few pointless steps, such as tapping the top with a stick before opening the door. A chimpanzee watching the same demonstration skips the tapping and opens the door. Children keep the needless steps, even when told they can leave them out (Derek Lyons, Andrew Young, and Frank Keil, 2007). This is **overimitation**, and it isn't a quirk of one culture. Children in Kalahari Bushman communities, with very different upbringings from the Australian city children they were compared with, overimitated just as faithfully (Mark Nielsen and Keyan Tomaselli, 2010).

It looks inefficient. It's also how a culture passes on its tools and rituals intact, long before the learner understands why each step matters. Children read an adult's deliberate actions as meaningful: if a capable adult does it, there's probably a reason, even an invisible one. Albert Bandura's Bobo doll experiments (Bandura, Dorothea Ross, and Sheila Ross, 1961) showed the darker side. Children who watched an adult attack an inflatable doll, with specific, unusual blows and shouts, later reproduced those exact blows and shouts. Children copy the whole performance, including the parts nobody meant to teach.

So the model teaches more than the skill. Children copy where adults look and what adults seem to care about. A model absorbed in the work passes on attention to the work. A model admired for status passes on desire for status. A manager who gives speeches about quality while visibly chasing her own promotion will find her team copying the chase.

How Far Ahead

If an external model is safer than an internal one, the obvious move is to put every learner in front of a genius. The evidence suggests a subtler rule.

Penelope Lockwood and Ziva Kunda (1997) gave university accounting students a newspaper profile of a superstar graduating student in their own field. First-year students who read it rated themselves more highly afterward: there was time to become her. Fourth-year students who read it rated themselves lower: they were nearly out of time, and they weren't her. The same superstar inspired the learners who could see a path to her, and deflated the ones who couldn't.

Dale Schunk, Antoinette Hanson, and Paula Cox (1987) found a related effect in children learning fractions. Some watched a peer model who solved the problems smoothly from the start: a **mastery model**. Others watched a peer who struggled at first, said so, worked through the difficulty, and then succeeded: a **coping model**. Children who watched coping models came away more confident and more skilled. A model who makes it look easy shows you the destination. A model who struggles in front of you shows you the road.

Put the findings together and you get a rule for distance. A model should be far enough ahead to admire without rivalry, and close enough that the learner can see a path to where she stands. An older sibling, a student two years ahead, an adult who remembers being bad at it and says so: these are often better models than the world champion, and far better than the classmate at the next desk.

With age, the pull of models shifts but never fades. Faithful copying emerges between eighteen months and three years and grows stronger through childhood. In adolescence, the models move outward, to older teenagers and public figures, and become a large part of how a young person decides who to be. Adults do it too. Watch which colleague the new hires start dressing like.

Design moves. Let children watch adults do real work with visible care, and with their reasoning spoken aloud. Explain why each step matters, so children copy purposes as well as motions. Offer models a few steps ahead,

coping models especially, along with heroes far ahead. Choose models whose desire points at the work.

❧ Rivals

If you're a competitive person, you may be bracing. Sometimes the only way you get through a dull report is by racing a colleague to finish it first. Competition deserves a fair hearing, because it does real work.

What Competition Does

Start with the bad news, because it's broad. Across 148 studies of more than 17,000 early adolescents in 11 countries, cooperative goal structures produced higher achievement than competitive ones (an effect size of 0.46) and individualistic ones (0.55), along with better peer relationships (Cary Roseth, David Johnson, and Roger Johnson, 2008). In a classic experiment, adults who solved puzzles while trying to beat another person showed less intrinsic motivation afterward than adults simply trying to finish quickly (Edward Deci and colleagues, 1981). And the outcome matters: winning tends to raise later interest in a task, and losing tends to lower it (Johnmarshall Reeve, Bradley Olson, and Steven Cole, 1985). In a contest with one winner, that's one learner whose interest rises and many whose interest falls.

Now the good news. Gavin Kilduff (2014) studied six years of races in a running club. He identified rivals, people similar in age and gender who had raced each other often and finished close together. When a runner's rival was in the race, the runner ran about five seconds per kilometer faster. A rival is a pacer with a grudge, and the grudge works. For performance near the edge of what a person can do, the kind of effort Practice needs in its final stretch, a well-matched rival can pull out effort nothing else will.

Two Kinds of Competition

The bad news and the good news describe two different things. **Task-oriented competition**, competing to improve your own performance, goes

with being well liked and seen as prosocial. **Other-referenced competition**, competing mainly to beat an opponent, goes with being liked less and seen as aggressive (Fabrizia Tassi and Barry Schneider, 1997). Racing a friend so you both run a faster mile is the first kind. Not caring how slow you run as long as he runs slower is the second.

Through Girard's lens, the difference is where the model sits. Task-oriented competition uses the other runner as a pacer toward a standard: the time, the distance, the better version of yourself. Other-referenced competition makes the other runner the object. Kilduff's runners were running faster, and the clock recorded it. Felix, in eighth grade, wasn't learning more math. He was trying to be Owen.

More Rivals, Less Rivalry

The number of competitors matters, and in a direction you might not expect. Stephen Garcia and Avishalom Tor (2009) found that students taking the SAT in venues with more test-takers scored lower, on average, than students in venues with fewer, even after accounting for other differences. In experiments, people told they were competing against ten others finished a quiz faster than people told they were competing against a hundred. They called it the **N-effect**. When the field is huge, beating it feels meaningless, and effort drops. Rivalry is strongest in small fields, among near equals.

That's useful for design, and dangerous. A classroom of thirty same-age children is a small field of near equals, ranked on the same measures every day. It's close to an ideal machine for producing rivalry.

Who Opts Out

Willingness to compete isn't evenly spread. In an experiment with 1,035 children aged three to eighteen, boys chose to enter competitions far more often than girls, from age three on (Matthias Sutter and Daniela Glätzle-Rützler, 2015). Among adults, Muriel Niederle and Lise Vesterlund (2007) found that men and women performed equally well on a math task, but 73 percent of men chose to be paid as a tournament, against 35 percent of

women. In a math game for 274 first and second graders, competitive and collaborative play both boosted perseverance and attitudes compared with playing alone, but only competition produced gender differences in attention to the math (Margaret Fish and colleagues, 2023). A purely competitive design can push half a room's attention off the work.

Box: *The Robbers Cave*

In the summer of 1954, the psychologist Muzafer Sherif and his colleagues brought twenty-two eleven-year-old boys to a summer camp in Robbers Cave State Park, Oklahoma. The boys were split into two groups, housed apart, and given a week to bond. They named themselves the Eagles and the Rattlers.

Then the researchers introduced a tournament: baseball, tug-of-war, a treasure hunt, with prizes for the winning group. Within days the groups were burning each other's flags, raiding each other's cabins, and refusing to eat together. Ordinary boys had become enemies over a set of pocketknives.

Contact alone didn't fix it. Shared meals turned into food fights.

*What worked were **superordinate goals**: problems neither group could solve alone. The camp's water supply failed, and both groups had to find the fault. A truck carrying food broke down, and the boys pulled it with the same rope they had used for tug-of-war against each other. By the end, many rode home on the same bus by choice.*

*The study has serious critics. The historian Gina Perry (*The Lost Boys*, 2018) documented how much the researchers staged and steered, and an earlier version of the experiment had failed when the boys refused to turn on each other. It's best read as a vivid demonstration, not a measurement. Its lesson matches the larger evidence: teams competing against other teams outperform individuals competing against each other (David Johnson and colleagues, 1981), and a shared rival outside the group turns internal models back into partners. Point the rivalry outward, and the group can do the work.*

Design moves. Compete against a standard, a clock, or a past self. Compete as teams, against other teams. Keep fields small and well matched, and change the matchups so everyone wins some of the time. Make losing cheap and frequent, so a loss is information. Offer competition as a choice. Save head-to-head rivalry for Practice near mastery, where effort is the bottleneck, and keep it away from new and fragile learning.

• Partners

Cooperation's advantage depends on structure, as anyone who has suffered a group project knows: one person does the work, two coast, and one brings snacks.

Why Groups Loaf

The problem is old. In the 1880s, a French agricultural engineer named Max Ringelmann had people pull on a rope, alone and in groups, and found that the more people pulled together, the less each pulled. Bibb Latané, Kipling Williams, and Stephen Harkins (1979) brought the finding into the lab with clapping and shouting. As group size grew, the noise each person produced dropped, and part of the drop was effort: people simply tried less when their own contribution couldn't be heard. They called it **social loafing**. In a tug of war with ten people, nobody can tell how hard you're pulling, so you pull a little less.

What Makes Groups Work

Robert Slavin's reviews (1995) find that cooperative learning raises achievement when two conditions hold together: the group shares a goal, and each member is individually accountable, so the team succeeds only if every member learns. Methods built on team-building alone did no better than traditional instruction. Telling students to work together falls short. They need a reason to take one another's learning seriously, and a way for each person's contribution to be seen.

One simple structure does both. A team of four builds a model bridge, and when it's judged, the judge picks one member at random to explain the design. Nobody knows who it will be. Every member has to understand the whole bridge, so the strongest builder has to teach the others, and the others have to learn. The group's goal and each member's accountability are now the same thing.

Togetherness Alone

Even the feeling of working with someone helps. In two studies with 70 preschoolers, merely signaling that a child was working on a puzzle together with someone else, with no actual help given, substantially increased persistence on the puzzle and liking for it (Lauren Butler and Gregory Walton, 2013). And as Chapter 8 showed, working on something together makes it “ours,” with obligations attached: three-year-olds who earned marbles together shared them fairly afterward.²

Cooperation points at the object when the shared goal is the work itself. It points away when the group becomes the goal: when fitting in or avoiding friction matters more than the task, or when one member quietly does the work for all. The drive to share goals appears in toddlerhood. Structured roles matter more as tasks grow complex.

Design moves. Give the group one real goal. Make each member's contribution visible, and each member accountable for the whole. Rotate roles. Keep groups small, three or four. Point the group's competitive energy outward, at a problem or another team.

An Audience

The Cyclists and the Cockroaches

In 1898, Norman Triplett, a psychologist and keen cyclist, noticed that riders posted faster times when racing alongside others or behind a pacer than when riding alone against the clock. He tested the idea with children winding

fishing reels, alone or side by side, and many wound faster in company. It's often called the first experiment in social psychology.

Robert Zajonc (1965) found the pattern underneath. The presence of others improves performance on well-learned tasks and impairs it on new and difficult ones. Zajonc and his colleagues (1969) then showed it in cockroaches. Roaches ran from a light down a simple straight runway faster when other roaches watched from little plexiglass boxes along the side. In a complicated maze, the audience slowed them down. If an audience can rattle a cockroach, it can rattle a seventh grader.

You've seen it. A driver who has parallel parked for ten years may slide in perfectly while a café full of people watches. A sixteen-year-old in the same spot will clip the curb. An audience helps Practice near mastery, and can hurt learning at its most fragile.

Teaching as an Audience

One kind of audience works differently: someone who needs what you know.

Catherine Chase, Doris Chin, Marily Oppizzo, and Daniel Schwartz (2009) gave eighth graders biology software with a twist. Some were told they were teaching a computer character, a teachable agent that reasoned from whatever they taught it. Others used the same software to learn for themselves. The teachers spent more time on the learning activities and learned more, and the benefits were largest for lower-achieving students. They called it the **protégé effect**: children would work harder for their pupil than for themselves.

Expecting to teach is enough to change how people learn. People who studied a passage expecting to teach it to another student, though none actually did, recalled more of it, organized it better, and answered more questions about its main points than people expecting a test (John Nestojko and colleagues, 2014). A meta-analysis found that preparing to teach had a small-to-medium benefit, and a medium benefit when actual teaching followed, including on delayed tests (Keiichi Kobayashi, 2019). And in a

review of tutoring programs in schools, the tutees gained, and so did the tutors (Peter Cohen, James Kulik, and Chen-Lin Kulik, 1982).

You may know this from your own life. Read an article for a work report and you skim for facts. Read it planning to explain it at dinner and you find the story.

The Watched Adolescent

The kind of audience matters most in adolescence. In one experiment, teenagers who were told a peer was watching them through a camera reported more embarrassment, and showed more physiological arousal, than children or adults did, with self-consciousness peaking in adolescence (Leah Somerville and colleagues, 2013). In a driving game, adolescents took substantially more risks when friends were watching than when they played alone; the effect was smaller in young adults and smaller still in adults (Margo Gardner and Laurence Steinberg, 2005).

Teenagers, in other words, will do almost anything in front of their peers, including things they're terrified of. That can wreck learning: a fifteen-year-old will stay silent all year rather than be wrong in front of the class. It can also be put to work. The same teenager who won't answer a question in class will rehearse for weeks to perform in a play, argue in a debate round, or present a project to a room of strangers, because there the audience is watching her do something worth doing. Peer attention is a powerful driver in adolescence. The design question is what it's attached to.

An audience that needs the work, the younger student being taught, the council reading the letter, the people who will eat the meal, points at the object and raises its worth.³ An audience that judges the performer points at the performer.

Design moves. Have learners teach: a younger child, a parent, a teachable agent. Give finished work a real audience. Keep new, fragile learning private until it's ready. With teenagers, attach peer attention to performances worth the courage they take.

✶ Belonging

Roy Baumeister and Mark Leary (1995) reviewed a wide body of research and concluded that the need to belong, to form and keep lasting, caring relationships, is a fundamental human motive. People who lack belonging suffer in almost every way that can be measured. It would be surprising if the need didn't touch learning, and it does, with startlingly small cues.

Minimal Connections

Adults who learned they shared a birthday with a student majoring in math persisted longer on an unsolvable math puzzle (Gregory Walton, Geoffrey Cohen, and colleagues, 2012). Four-year-olds told they belonged to a “puzzles group” persisted longer on a hard puzzle than children told they were a “puzzles child” (Allison Master and Walton, 2013). A shared birthday with a stranger, or a single word changing “child” to “group,” was enough.

Belonging at Scale

In a randomized trial with 92 first-year college students, a brief exercise framing social adversity as common and temporary (everyone feels out of place at first; it passes) raised African American students' grades over three years and halved the racial achievement gap (Walton and Cohen, 2011). A replication with 26,911 students at 22 institutions found that the online version, under thirty minutes long, raised the rate of completing the first year full-time, especially for groups that had historically progressed at lower rates. It worked only where students' groups had real opportunities to belong (Walton and colleagues, 2023). The exercise could clear away the feeling of not belonging. It couldn't create a place to belong where none existed.

Belonging to What

Belonging is also the third handover from Chapter 9: identity.⁴ A child who joins a robotics club in October is captured by the team, the T-shirts, the Saturday pizza. By March, if things go well, she's someone who builds robots. The group carried her across the valley, and on the far side the work is hers.

Whether that happens depends on what the group is defined by. Belonging to a group defined by the work, people who build things, points at the object. Belonging that depends on standing, fitting in by scoring well or by having the right shoes, points at standing. The first kind of group gives a newcomer a job on the first day. The second gives her a ranking.

Belonging matters at every age and weighs most at transitions: a new school, a new team, the first year away. Identity labels, a close relative of belonging, are covered in Chapter 8.⁵

Design moves. Make clear that struggle is normal and shared. Form groups around the work. Give newcomers real roles from the start: on the first day, a newcomer runs the stopwatch, not the water bottles.

Approval

The drawing comes home from preschool, and you have about two seconds to respond. “You’re such an artist!” is the reflex. “You made the sky go dark at the top. How did you do that?” takes a moment longer. The research suggests that moment is well spent.

Praise the Work

In a classic experiment, fifth graders who succeeded at a set of problems were praised either for their intelligence (“you must be smart at this”) or for their effort (“you must have worked hard”). Those praised for intelligence later avoided challenging problems, enjoyed the task less, and performed worse after a failure (Claudia Mueller and Carol Dweck, 1998).

The effect reaches down to single words. Andrei Cimpian, Holly-Marie Arce, Ellen Markman, and Carol Dweck (2007) praised four-year-olds’ drawings either as “you are a good drawer” or as “you did a good job drawing.” After later mistakes, the children told they were good drawers were more likely to denigrate their own skill, feel bad, and give up. A noun names what a child is, and a mistake threatens it. A verb names what she did, and a mistake is just the next drawing.

In a study of families at home, parents' praise of their toddlers' effort between 14 and 38 months predicted children's belief at ages seven and eight that ability can grow; praise of the child's traits wasn't linked to the opposite belief (Elizabeth Gunderson and colleagues, 2013).

The Evidence Is Weaker Than Its Fame

A close replication with 624 Chinese children aged nine to thirteen found the praise manipulation had no effect on any of the eight motivation and attribution measures the original study used, and only a marginal effect on performance after failure (Yue Li and Timothy Bates, 2019). Research on growth-mindset interventions more broadly has found small average effects. Praise is not a lever that moves children by itself.

What survives is the larger picture from Jennifer Henderlong and Mark Lepper's review (2002). Praise helps motivation when it's sincere, when it attributes success to things the learner controls, when it supports the learner's own choices, and when it conveys standards the learner can reach. It hurts when it's inflated or controlling, or when it compares the learner with others, and that kind of praise is especially costly after the learner fails.

Inflated Praise

Adults give more inflated praise ("that's incredibly beautiful!") to children with low self-esteem, trying to lift them. In an experiment, inflated praise led those children to avoid challenges, while it had the opposite effect on children with high self-esteem (Eddie Brummelman and colleagues, 2014). Inflated praise sets an insecure child on a high pedestal, and the safest thing to do on a pedestal is stand still. Praise that describes the work builds a staircase instead: each step is solid, and a slip costs one step.

Praise points at the object when it describes the work: what the learner did, how they approached it, what changed. It's feedback about the object wearing a smile. Praise that points at the person is a label, and labels can backfire on hard tasks.⁶ Through Girard's lens, praise has a second danger.

Praise given in public, for being best, turns approval into a scarce prize among peers, and a scarce prize among peers is a red block.

Design moves. Describe what the learner did. Skip superlatives. Praise strategies and choices. Praise privately more often than publicly. Let the work's own result do most of the praising.

The Admired Adult

Wanting to impress someone you care about is among the strongest outside drivers there is. Ask adults who changed the direction of their lives at school, and many name a single teacher.

Warmth and Engagement

A meta-analysis of 99 studies from preschool through high school found that warm teacher-student relationships were associated with students' engagement at medium-to-large strength, and with achievement at small-to-medium strength. Negative relationships showed the reverse (Debora Roorda and colleagues, 2011). A follow-up found the link to achievement ran partly through engagement (2017). The associations were stronger in the higher grades, exactly when relationships with teachers usually grow thinner.

The effects last. Bridget Hamre and Robert Pianta (2001) followed children from kindergarten through eighth grade. Kindergarten teachers' ratings of conflict and dependency in their relationship with a child predicted that child's academic and behavioral outcomes years later, especially for children who had shown behavior problems early.

These studies are correlational; engaged students may also draw warmer relationships. But the pattern is consistent, and it runs in the direction the theory predicts.

High Standards, Stated With Belief

David Yeager and his colleagues (2014) gave middle school students critical comments on their essays, with one of two notes attached. The neutral note

said the comments were there to give feedback. The other said: I'm giving you these comments because I have very high expectations, and I know you can reach them. Among African American students, 64 percent revised their essays after the second note, against 27 percent after the neutral one. High standards and belief in the learner, stated together, made criticism usable. They called it **wise feedback**.

Expectations matter in subtler ways too. In the famous Pygmalion study, teachers were told that certain children, actually chosen at random, were about to bloom intellectually, and those children gained more (Robert Rosenthal and Lenore Jacobson, 1968). Decades of follow-up research have found that teacher expectation effects are real but usually small, often fade, and may be larger for students from stigmatized groups (Lee Jussim and Kent Harber, 2005). An adult's belief is a driver. It's rarely a miracle.

The Teacher as Model of Desire

Here Girard returns. An admired adult is an external model, and what the child picks up from her is what she visibly wants. Anne Frenzel and her colleagues (2009) found that teachers' own enjoyment of teaching math predicted their students' enjoyment of math, and the link ran through how enthusiastic students saw their teachers to be. Enjoyment passed from teacher to student, the way desire passes along Girard's triangle.

So the admired adult points at the object when she cares visibly about the work: when she stops the lesson because she's just noticed something odd about the data, when she reads a passage aloud because she loves it. She points at approval when she cares mainly about the child's performance. A teacher who loves chemistry passes on chemistry. A teacher who mainly loves test scores passes on test scores, and the child learns to love the teacher's approval, which is a red block with a pulse.

This is the engine of the tutoring model in Chapter 15: a child surrounded by adults who care for her and who visibly care about their crafts.

Design moves. Hold high standards and say why, with belief in the learner stated plainly. Show your own interest in the work, out loud. Know each learner well enough to read them. Choose adults for children's lives, as far as you can, by what they love.

• The School Through Girard's Lens

Look at the classroom form from Chapter 2 with this chapter's tools, and something uncomfortable comes into focus.⁸ The classroom is close to an ideal setting for internal mediation.

Every model is a peer. Children spend most of the school day with others of the same age, at the same level, doing the same tasks, measured by the same standard. The one adult in the room is outnumbered twenty-five or thirty to one. Older students are in other rooms; working adults and experts are outside the building. Nearly every model a child can see is too close to admire from a distance, and close enough to become a rival. It's the N-effect's ideal field: small, matched, and ranked daily.

Every peer wants the same things. The grade, the rank, the teacher's approval, the place in the next school. These are metaphysical objects: they stand for standing. When learning becomes the way to get them, the subject becomes a means, and the object disappears between the rivals. That is what happened to Felix and Owen.

The arrangement is recent. In 1848 Boston opened the Quincy Grammar School, often cited as the first fully graded school in America, with a separate room and teacher for each grade. The model spread quickly, because it was efficient. For most of human history before that, children learned among people of many ages, in families, workshops, and communities, where many of the models were far enough ahead to admire.

Mixed ages behave differently. Peter Gray and Jay Feldman (2004) observed age-mixed interaction at a democratic school where students of all ages mingle freely. Younger children, in the company of older ones, engaged in activities beyond what they could manage alone, and older children practiced

patience, explanation, and leadership with the younger ones. It's an unusual school, and the study observed rather than tested. But it shows what the lens predicts: across a gap of years, peers turn back into models.

The evidence fits. Children learn most readily from admired models. Coping models a few steps ahead beat flawless ones. Cooperation outperforms individual competition, and teams competing against other teams outperform individuals competing against each other. Task-oriented competitors are well liked; other-referenced competitors aren't. Each finding is what the theory predicts. Rivalry among near equals costs, and admiration across distance pays.

What the lens recommends. Supply external models: older learners, adults who love the work, masters and apprentices, tutors, heroes from the past.⁹ Aim competition at standards and at other teams, and away from the classmate at the next desk. Replace ranks with comments. The classroom form can soften internal mediation. It can't escape it: same-age peers ranked against each other is what the form is.

The room has left the building. A social feed puts you among peers wherever you are, ranked by likes, views, and followers, which are grades and badges by other names. In that room the photograph and the essay can vanish into the rivalry the way the subject does in a classroom, and the work becomes a way to outrank the next account. Girard would recognize it as internal mediation with no closing bell. Chapter 11 looks at the machinery that keeps that room open all night.¹⁰

Other People in Inquiry and Practice

Social drivers serve both systems, which is part of why they're so strong.

In Inquiry, other people supply the question and the reason to pursue it. The four-year-old at the ant trail follows the ants on her own, and she follows them longer with a parent crouched beside her asking where they're going.¹¹ A visiting scientist who says what she still wonders about hands over a

question with her desire attached. An audience that needs the answer turns a question into a commitment.

In Practice, other people carry the reps. A choir carries a singer through the twentieth run of a hard bar. A training partner gets you to the track at six in the morning. A rival, in the final stretch toward mastery, pulls out the last few seconds per kilometer.

The dangers are different too. In Inquiry, the danger is that a peer's question becomes the one to beat, and the learner abandons her own. In Practice, the danger is that a ranking becomes the goal, and the skill becomes a way to climb it.

🔴 Back to the Red Block

Run Felix's eighth-grade year again.

He still has a friend named Owen who is very good at math. But this time the school puts both boys on a math team that competes against teams from other schools. Owen is no longer the person Felix has to beat. He's the person Felix needs, because the team's score depends on all four members, and Owen is the one who can explain why the trick on problem six works. Their coach is a retired engineer who still lights up at a clever proof and says so. Twice a month, a high school junior who made the state team two years ago comes to practice. She tells them she failed her first qualifying round, and shows them the problem that beat her.

Felix still wants what other people want. That never changes, in him or in anyone. But now the people he's watching want math: the coach, the junior, even Owen, who has become a partner. The rivalry points outward, at another school. The models stand far enough ahead to admire and close enough to follow. By spring Felix hasn't decided whether he's a math person. He's too busy with problem six.

• Open Questions

- How far ahead should a model be, in years and in skill, to inspire without deflating, and does the distance change with age?
- Can a classroom of same-age peers be redesigned to reduce internal mediation without breaking it up into mixed ages?
- Why does competition affect girls and boys differently at such young ages, and what forms of competition avoid it?
- Does a school day spent among same-age rivals help explain bullying, as Girard's account of scapegoating would predict?
- How should AI tutors serve as models? Can a child admire software the way she admires a person, and should she?

If you've watched a model hand a learner a lasting interest, or watched a rivalry take one away, I'd like to hear about it.

• Notes

1. See Chapter 9.
2. See Chapter 8, "Scales of Ownership and Modes of Agency."
3. See Chapter 7.
4. See Chapter 9, "How Capture Becomes Engagement."
5. See Chapter 8, "Seeding Ownership."
6. See Chapter 8, "Seeding Ownership."
7. See Chapter 15.
8. See Chapter 2, "The Form Is the Cause."
9. See Chapter 7, "The Early Drive to Matter"; Chapter 8, "Handing Over Ownership"; and Chapter 15.
10. See Chapter 11, "The Machine Built for Capture."
11. See Chapter 1, "The Ant Trail"; Chapter 8, "Agency: Reading Who Steers."

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