3 NATURE, NURTURE, AND NONE OF THE ABOVE

Tales of the eerie resemblances between identical twins separated early in life and reared in different homes have made their way into the popular press and the popular imagination. There was the story of the two Jims—both bit their nails, enjoyed woodworking, drove the same model Chevrolet, smoked Salems, and drank Miller Lite; they named their sons James Alan and James Allan. There was the story in my local newspaper, accompanied by a photo of two men with the same face, both wearing fire helmets—reunited because both had become volunteer firefighters. There was the story of Jack Yufe and Oskar Stöhr, one reared in Trinidad by his Jewish father, the other in Germany by his Catholic grandmother. When reunited, they were both wearing rectangular wire-frame glasses, short mustaches, and blue two-pocket shirts with epaulets; both were in the habit of reading magazines back to front and flushing toilets before using them; both liked to startle people by sneezing in elevators. And there was the story of Amy and Beth, adopted into different homes—Amy a rejected child, Beth doted upon—both girls suffering from the same unusual combination of cognitive and personality deficits.[1]

These true stories of reared-apart identical twins are a testimony to the power of the genes. They suggest that genes can cause striking similarities in personality characteristics, even in the face of substantial differences in rearing environments. They imply that genes control behavior in subtle, intricate ways that cannot be explained in terms of our current understanding of genetic mechanisms and brain neurophysiology.

But the flip side of the coin is seldom mentioned. The flip side of the coin is that identical twins reared in the *same* home are not nearly as alike as you would expect them to be. Given how similar the reared-apart twins are, you

probably think that the reared-together ones must be as alike as two copies of your annual Christmas letter. In fact, they are no more alike than identical twins separated in infancy and reared in different homes. Though they have many little quirks in common, there are also many little differences between them.

They are no more alike than the ones reared in different homes! Here are two people who not only have the same genes but who also grew up in the same home at the same time with the same parents, and yet they do not have the same personality. One might be friendly (or shy), the other more (or less) so. One might look before she leaps, the other might not leap at all. One might disagree with you but hold his peace while the other tells you you're full of crap. I am talking about *identical twins.* These people are so alike in appearance that you have trouble telling them apart, but give them a personality test and they will check off different answers. The correlation of personality traits (as estimated by scores on personality tests and in various other ways) is only about .50 for identical twins reared in the same home.[2]

Growing Up in the Same Home Does Not Make Children More Alike

At the University of Minnesota, a group of behavioral geneticists are running an ongoing research project called the Minnesota Twin Study. When reared-apart adult twins are located, they are awarded all-expense-paid trips to Minneapolis and treated to a solid week of psychological testing; one wonders whether second prize is *two* solid weeks of psychological testing. As it happens, very few of the twins turn down the offer. The chance to meet one's wombmate, possibly for the first time since the umbilical cords were cut, is irresistible.

Among the twins who came to Minneapolis to be tested were a pair known as the Giggle Twins. Although these women had been reared in separate homes, and both twins described their adoptive parents as dour and undemonstrative, both were inordinately prone to laughter. In fact, neither had ever met anyone who laughed as much as she did until the day she was reunited with her identical twin.[3]

Observing the Giggle Twins, it is easy to jump to the conclusion that laughter is genetic. But they are just one set of twins, and what I've told you about them is an anecdote, not data. Also, the adoptive homes in which these twins were reared actually sound a lot alike. Perhaps both twins laugh so much in adulthood because neither of them got enough laughter during childhood. In truth, there is no way to determine with certainty whether

these twins are both gigglers because of their identical genes or because they both happened to have had experiences which produced this effect in them. Although any *differences* between them are assumed to be environmental—they can't be genetic since they both have the same genes[4]—the *similarities* can be genetic, environmental, or a combination of the two.

But what cannot be done for the Giggle Twins themselves can be done for the trait they are noted for. Give behavioral geneticists a few dozen pairs of twins or siblings (biological or adoptive, reared together or apart) and they can tell you whether the tendency to laugh a lot—I'll call this trait "risibility"—is genetic, environmental, or a combination of the two. The methodology of behavioral genetics is based on a variation of the old question, Are adopted children more like their adoptive parents or more like their biological parents? Substituting "siblings" for "parents" eliminates the complications of trying to compare people of widely different ages, but otherwise the idea is the same. The method rests on two basic premises: that people who share genes should be more alike than people who don't, and that people who shared a childhood environment should be more alike than people who didn't.

From these two premises, we can generate predictions. If risibility is entirely genetic, we would expect to find that identical twins are very similar in risibility (though not exactly alike, since even a single individual varies from day to day in readiness to laugh) and that it doesn't make any difference whether they were reared together or apart. If risibility is entirely environmental, we would expect to find that reared-together identical twins, fraternal twins, and adoptive siblings are all equally alike in risibility and that pairs reared in different homes are not at all alike. Finally, if risibility is due to a combination of heredity and environment—certainly the best bet—we'd expect to find that people who share genes are somewhat alike, people who were reared in the same home are somewhat alike, and people who share *both* genes and rearing environment are the most alike.

Sounds logical? Guess again. If risibility follows the pattern of the other traits that have been studied so far, what we would actually find is None Of The Above.

The unexpected results started appearing in the mid-1970s.[5] By the late '70s, enough data had been collected to make it look like there was something wrong with the basic premises of behavioral genetics. Not the genetic premise—that was okay. People who share genes *are* more alike in personality than people who don't share genes. It was the premise about sharing an environment that didn't seem to be working properly. Study after study was showing that pairs of people who grew up in the same home were *not* noticeably more alike in personality than pairs who grew up in two different homes. And yet

the results didn't fit the entirely-genetic prediction either, because genetic relatives weren't alike enough—the correlations were too low. Something other than genes was exerting an effect on the subjects' personalities, but it didn't seem to be the home in which they were reared. Or if it was the home, it was working in an inexplicable manner. It wasn't making siblings *more* alike, it was making them *less* alike.[6]

Perhaps you are wondering why these results were unexpected. Why *should* children reared in the same home be alike? If your parents were dour and undemonstrative, don't you feel you could have gone either way—either be just like them or just the opposite? Can't you imagine a family with sourpuss parents and two children who went in opposite directions: one a sourpuss like the parents, the other a barrel of fun?

The problem is that researchers who study child development—including behavioral geneticists—would like to believe that parents' attitudes, personalities, and child-rearing practices have predictable effects on their children. Epidemiologists try to predict what effects certain eating habits and lifestyles will have on a person's physical health and longevity; developmentalists try to predict what effects parents' behaviors and child-rearing styles will have on their child's mental health and personality.[7]

Parents vary in their attitudes toward children and their ideas about family life. In some families humor is considered a virtue and laughter its reward; kids are permitted to interrupt or make impertinent remarks if they're funny enough. I grew up in a family like that. In high school I had a friend named Eleanor whose family was considerably more intellectual than mine (mine wasn't intellectual at all). One evening she had dinner at my house and afterwards she told me she wished she had been born into my family instead of hers. Dinner at the Riches' was lively, with everyone talking at once and lots of wisecracking and laughter. Eleanor's parents were straitlaced and proper; dinner at her house, she said, was boring. Don't you think that someone who grew up in my family should score higher on a test of risibility than someone who grew up in Eleanor's? Don't you think that two people who grew up in my family should be more alike in risibility than one who grew up in my family and one who grew up in Eleanor's?

If you believe that children can "go either way"—that they can either turn out like their parents or, with equal ease, go in the opposite direction—then what you are saying is that parents have no predictable effects on their children. If you are espousing a milder version of that view—that *most* children are influenced by their parents but occasionally you find one rebelling and going in the opposite direction—then we would expect to find some overall tendency for siblings to be similar, since the majority do not rebel. Because

children are different to begin with—one sibling may be born an Abbott, the other a Costello—we wouldn't expect them to react in exactly the same way to the parents' attitudes and behaviors. Nonetheless, on average, people reared in a family that encourages joke-telling and laughter should be higher in risibility than people reared in a family of the we-are-not-amused variety.

But that is not what the behavioral geneticists found. They looked at a wide variety of personality traits (though not, as far as I know, risibility) and the results were about the same for all of them. The data showed that growing up in the same home, being reared by the same parents, had little or no effect on the adult personalities of siblings. Reared-together siblings are alike in personality only to the degree that they are alike genetically. The genes they share can entirely account for any resemblances between them; there are no leftover similarities for the shared environment to explain.[8] For some psychological characteristics, notably intelligence, there is evidence of a transient effect of the home environment during childhood—the IQ scores of preadolescent adoptive siblings show a modest correlation. But by late adolescence all nongenetic resemblances have faded away. For IQ as for personality, the correlation between adult adoptees reared in the same home hovers around zero.[9]

Research results in psychology often prove to be evanescent. Interesting effects that show up in one study often fail to show up in the next. But results in behavioral genetics are what statisticians call "robust." Study after study shows the same thing: almost all the similarities between adult siblings can be attributed to their shared genes. There are very few similarities that can be attributed to the environment they shared in childhood.

Growing up in the same home does not make siblings alike. If there really are "toxic parents," they aren't toxic to all their children. Or they aren't toxic in the same way. Or, if they are toxic in the same way, each child reacts to the toxicity differently, even if they are identical twins. What does it mean if the presumed effects of toxic parents are discernible on only one of their children—the one who ends up in the office of the clinical psychologist—and the others are fine?[10]

Scylla or Charybdis

By and large, socialization researchers ignored the unsettling results being reported by behavioral geneticists. Of the few who took notice, the most prominent was Eleanor Maccoby, the Stanford professor mentioned in Chapter 1 (the one who admitted, many years later, that the first socialization study didn't pan out).

In 1983, Maccoby and her colleague John Martin published a long and

penetrating review of the field of socialization research. They talked about research methods, results, and theories. They talked about the effects of parents on children and also about the effects of children on parents. After eighty densely printed pages of this, they summed up their impressions of the field in a few brisk paragraphs. They pointed out that the correlations found between the parents' behavior and the children's characteristics were neither strong nor consistent. They wondered, in view of the large number of measurements made, whether the correlations that did turn up might have occurred by chance. And they drew their readers' attention to the puzzling findings coming from the field of behavioral genetics: that adopted children growing up in the same home are not at all alike in personality, and that even for biological siblings the correlations are very low.

From the weakness of the trends found in socialization studies and the unsettling results emerging from behavioral genetic studies, Maccoby and Martin drew the following conclusions:

> These findings imply strongly that there is very little impact of the physical environment that parents provide for children and very little impact of parental characteristics that must be essentially the same for all children in a family: for example, education, or the quality of the relationship between the spouses. Indeed, the implications are either that parental behaviors have no effect, or that the only effective aspects of parenting must vary greatly from one child to the other within the same family.[11]

Either that parents have no effect or that they have different effects on each of their children—those were the only two alternatives that Maccoby and Martin offered. Neither was much to the liking of socialization researchers. It was like telling epidemiologists that either broccoli and exercise have no effects on health or else they make some people healthier and others sicker. Agreed, broccoli and exercise probably do have different effects on different people, but at least in epidemiology there are overall trends—eating veggies and getting regular exercise appear to be good for *most* people. In socialization research, according to Maccoby and Martin, it wasn't even clear that there were overall trends.

I want to examine their statement a little more closely, because it is of central importance. "These findings," they said—by which they meant the weak and inconsistent trends found by the socialization researchers, plus the lower-than-expected correlations between reared-together siblings found by behavioral geneticists—"imply strongly that there is very little impact of the physical environment that parents provide for children and very little impact of

parental characteristics that must be essentially the same for all children in a family." In other words, most of the things that were believed to have important effects on children turn out not to have important effects on them. If the parents work or don't work, read or don't read, drink or don't drink, fight or don't fight, stay married or don't stay married—all these "must be essentially the same for all children in a family," and therefore all appear to have "very little impact" on the children. Similarly, if the physical environment of the home is an apartment or a farmhouse, spacious or crowded, messy or tidy, full of art supplies and tofu or full of auto parts and Twinkies—all these, too, "must be essentially the same for all children in a family," and therefore appear to have "very little impact."

With a stroke of the pen, Maccoby and Martin had crossed out most of the things that socialization researchers had been making a living on for decades. With a second stroke, they threatened to cross out the rest. Take your pick, they said: either the home and the parents have *no* effects, or else the only things that have effects are those that differ for each child in the family. The first alternative would mean that the nurture assumption is wrong; the second offered the only hope of rescuing it.

No one chose the first alternative. No one. The developmentalists who paid attention to what was going on in the field as a whole, rather than in their own little corner of it, rallied around Maccoby and Martin's second alternative. The rest ignored their warning that the sky is falling and went on with their plowing.

Maccoby and Martin's second alternative says that "the only effective aspects of parenting must vary greatly from one child to the other within the same family." In other words, the parents and the home still matter, but each child inhabits, in effect, a different environment within the home. Developmentalists who take this approach speak of "within-family environmental differences," meaning experiences that children who grow up in the same family do not share. For example, the parents might prefer one child to the other, so the preferred child grows up with loving parents while the other grows up with indifferent or rejecting parents. Or the parents might be strict with one child, lenient with the other. Or they might label one "the athlete" and the other "the brain." Within-family environmental differences might also result from the interactions of the children themselves. One grows up with a bossy older sister, the other with a pesky younger brother. The home is depicted, not as a single homogeneous environment, but as a bunch of little microenvironments, each inhabited by one child.

It's a perfectly reasonable idea. There is no question that such microenvironments exist, no question that each child in the family does have different

experiences within the same home and different relationships with the other people who live in it. Everyone knows that parents don't treat their children exactly alike, even if they try to. Mom always loved you best, so naturally you turned out better.

But immediately we run into problems, because that path leads directly to an endless loop of causes and effects. How do we know Mom didn't love you best because you were better to begin with? Are you smart because you were labeled "the brain" or were you labeled "the brain" because you were smart? If parents treat each of their children differently, are they *responding* to the differences among their children or are they *causing* them?

In order to get out of this loop, we need to show that parents are not simply reacting to characteristics their children already had—characteristics they were born with. We need to find a reason why a parent might behave differently toward two children that cannot be attributed to genetic differences between them. Then—and this is the tricky part—we need evidence that these differences in parental treatment *actually have effects on the children.* We need evidence of parent-to-child effects, because if all we've got are child-to-parent effects we haven't shown that parents have any influence whatever on how their children turn out.

Birth Order

There is one thing I can think of that makes parents act differently to different children and that can't be explained in terms of the characteristics the children were born with: birth order. A firstborn and a secondborn have equal chances in the lottery in which genes are handed out, but once they are born they find themselves in very different microenvironments. They have different experiences in the home, and these experiences can be predicted with some accuracy on the basis of which one was born first. The firstborn has the parents' full attention for at least a year and then suddenly is "dethroned" and has to compete with a rival; the secondborn has competition right from the start. The firstborn is reared by nervous, inexperienced parents; the secondborn by parents who know (or think they know) what they're doing. Parents give firstborns more responsibility, more blame, and less independence.[12]

If children's personalities are affected by how their parents treat them, and if parents treat firstborns differently from laterborns, then the order in which they were born should leave traces on children's personalities—traces that should still be detectable after they grow up. The traces are called birth order effects. They are a favorite topic among writers of pop psychology. Here, for

example, is John Bradshaw, the guru of "dysfunctional families," expounding on the distinctive personality characteristics of firstborns, secondborns, and thirdborns:

> A first child will make decisions and hold values consistent with or in exact opposition to the father. . . . They are other-oriented and socially aware. . . . First children often have trouble developing high self-esteem. . . . Second children naturally relate to the emotional maintenance needs of the system. . . . They will pick up "hidden agendas" immediately but not be able to express clearly what they feel. Because of this, second children often seem naive and puzzled. . . . The third child hooks into the relationship needs of the system. . . . Appears very uninvolved but is actually very involved. Feels very ambivalent and has trouble making choices.[13]

The problem for academic psychologists is that they can't go around making statements like these unless there is some evidence to back them up. They would have to be able to show that, on average, firstborns really do have more self-esteem problems than second- or thirdborns, and that thirdborns really do feel more ambivalent than their older siblings. Scores on a personality test would serve the purpose, if it could be shown that firstborns, secondborns, and thirdborns differed systematically from one another in the responses they gave.

For more than fifty years, academic psychologists of all persuasions have been looking for these systematic differences—looking for convincing evidence that birth order has effects on personality. Both behavioral geneticists and socialization researchers would love to find such evidence. For behavioral geneticists, it would provide a way to reconcile their unsettling results with their assumptions (yes, behavioral geneticists, too, believe in the power of nurture). For socialization researchers, the potential payoff is obvious: proof that what goes on in the home has important and lasting effects.

Piles and piles of birth order data have been collected over the years, much of it in the form of scores on personality tests. Thousands of subjects have indicated, at the top of the page, their position in the family they grew up in, and, in the spaces below, whether they have confidence in their abilities or have trouble expressing their feelings or hate having to make choices. Hundreds of researchers have collected these pages and analyzed the data they contain. Sad to say, the enterprise has been a waste of time and paper. In 1990, Judy Dunn and Robert Plomin—she's the world's leading expert on sibling relationships, he's the world's leading expert on behavioral genetics—looked hard and (I suspect) longingly at birth order data. This is what they concluded:

> When differences in parents' behavior to their different children are discussed, often the first issue that comes to mind is the birth order of the children. It is frequently assumed that parents systematically treat their firstborn child differently from laterborn children. . . . In an important sense such differences are not relevant. This is because individual differences in personality and psychopathology in the general population—the differences in outcome that we are trying to explain—are *not* clearly linked to the birth order of the individuals. Although this evidence goes against many widely held and cherished beliefs, the judgment of those who have looked carefully at a large number of studies is that birth order plays only a bit-part in the drama of sibling differences. . . . If there are no systematic differences in personality according to birth order, then any differences in parental behavior that are associated with birth order cannot be very significant for later developmental outcome.[14]

Dunn and Plomin referred to "those who have looked carefully at a large number of studies." Foremost among those careful lookers were the indefatigable Swiss researchers Cécile Ernst and Jules Angst—that's right, Ernst and Angst, I am not making them up.

In their herculean review of birth order research, Ernst and Angst examined all the studies they could find on personality and birth order—studies published anywhere in the world between 1946 and 1980. The data consisted of direct observations of the subjects' behavior; ratings by their parents, siblings, or teachers; and scores on various personality tests. By putting together all these results, Ernst and Angst expected to verify the hypothesis that "Personality varies with birth order: there is a 'firstborn personality.'"[15]

They did not verify it. What Ernst and Angst found, first of all, was that most of the studies that purported to show birth order effects were irredeemably flawed. In most cases the researchers had failed to take into account differences in family size and socioeconomic status, variables that are themselves correlated and that can bias the results.[16] Ernst and Angst eliminated the flawed studies, put together what they had left, and what did they find? No consistent birth order effects on personality. The majority of studies yielded no significant effects. When effects did occur they were often restricted to some subset of subjects—girls but not boys, small families but not large ones—with no rhyme or reason to the patterns.

Just to be sure they hadn't overlooked anything, Ernst and Angst did a study of their own. It was a huge study by the standards of social science: they gave personality tests to 7,582 college-age residents of Zurich. Twelve different aspects of personality were measured: sociability, extraversion, aggressiveness,

excitability, nervousness, neuroticism, depression, inhibition, calmness, masculinity, dominance, and openness. (Nope, they didn't measure risibility.)

The results offer no comfort to believers in the efficacy of the family environment. Among subjects coming from two-child families, there were no significant differences between the first- and the secondborn in any of the measured personality traits. Among subjects coming from families of three or more, there was one small difference, possibly a fluke: the lastborn scored slightly lower on masculinity. (When so many variables are measured, a significant difference is likely to turn up just by chance.)[17]

Ernst and Angst summed up the outcome of their efforts this way: "An environmental variable"—birth order—"that is considered highly relevant is thus disaffirmed as a predictor for personality and behavior. This may signify that most of our opinions in the field of dynamic psychology will have to be revised."[18]

But the belief in birth order effects isn't killed so easily: it's one of those things that can be knocked down repeatedly and pops right back up again, time after time. Of the many attempts to revive the idea, the one that has attracted most notice is that of historian of science Frank Sulloway. In his book *Born to Rebel*, Sulloway claimed that innovations in scientific, religious, and political thought are generally supported by laterborns and opposed by firstborns. This is because laterborns have more of the quality he called "openness to experience." The innovative thoughts themselves, I noticed, are not necessarily the products of laterborns: Galileo, Newton, Einstein, Luther, Freud, and Mao Tse-tung were all firstborns. But when it comes to accepting the new ideas of others, it appears (based on the data presented in Sulloway's book) that firstborns tend to drag their heels. From early childhood, said Sulloway, they are heavily invested in the status quo. Unless they get on poorly with their parents, or have other reasons which he enumerated, firstborns have no motivation to rebel. They have no wish to upset an applecart from which they already get more than their share of the apples. Whatever is being given out, most notably parental attention, they get first shot at it. All they have to do to maintain their favored position is to say Yes Mommy, Yes Daddy. Since the brown-nose slot has already been filled, younger siblings must search for another role to play in the family. Thus, laterborns are the ones who rebel. As adults, laterborns are more likely to espouse what Sulloway called "heterodox" (as opposed to orthodox) views.[19]

Perhaps I am biased against Frank Sulloway's theory because I myself am a firstborn with heterodox views. Sulloway, himself a laterborn, is very hard on firstborns: they are depicted in his book as selfish, intolerant, jealous, close-minded, aggressive, and domineering. Cain, as he pointed out more than once, was a firstborn. Sulloway clearly identifies with Abel.

Stuck with the role of the domineering aggressor, I've tried to make the best of it. My critique of *Born to Rebel* is in the back of this book, in Appendix 1. Sulloway reexamined the studies reviewed by Ernst and Angst and came up with different results, results that support his theory. But I found the reanalysis unconvincing. And Sulloway didn't mention the fact that Ernst and Angst carried out a study of their own—a carefully done study that was larger than any of the ones they reviewed—and found no birth order effects of interest. In particular, they found no difference between firstborns and laterborns in openness.

Birth order effects are like those things you think you see out of the corner of your eye but that disappear when you look at them closely. They do keep turning up, but only because people keep looking for them and keep analyzing and reanalyzing their data until they find them. They turn up more often in older or smaller studies than in newer or larger ones. They turn up most often when the subjects' personalities are judged by their parents or siblings—a finding to which I will return in the next chapter.

Parental love and attention are not distributed evenly; Sulloway got that right. In his book he cited the finding that two-thirds of mothers with two children admitted to researchers that they favored one child over the other.[20] What he didn't mention is that a large majority of these non-impartial mothers said it was their *younger* child who got more attention and affection. This result was backed up by a later study in which both mothers and fathers were interviewed. About half admitted that they gave more love to one child than the other. Of these parents, 87 percent of the mothers and 85 percent of the fathers favored the younger child.[21]

Contrary to Sulloway's notions and contrary, perhaps, to his childhood memories, it is the younger child, not the older one, who more often gets the lion's share of the parents' affection and attention. This is true the world over.[22] In places where traditional methods of child-rearing are still used (I will describe them in Chapter 5), babies are cosseted and three-year-olds are dethroned without warning or apology when a younger sibling is born. Your elder brother may inherit the kingdom, the mansion, or the family farm, but that doesn't mean that Mom always loved him best. Well, maybe she did love him best, but it wasn't because he was born first.

I will have more to say about Sulloway's theory in the next chapter. Right now the topic is birth order and on this I will let those plainspoken Swiss researchers, Ernst and Angst, have the last word. In italics (theirs).

> Birth order research seems very simple, since position in a sibship and sibship size are easily defined. The computer is fed some ordinal numbers, and then it

is easy to find a plausible post hoc explanation for any significant difference in the related variables. If, for example, lastborn children report more anxiety than other birth ranks, it is because for many years they were the weakest in the family. If firstborns are found to be the most timid, it is because of incoherent treatment by an inexperienced mother. If, on the other hand, middle children show the greatest anxiety, it is because they have been neglected by their parents, being neither the first- nor the lastborn. With some imagination it is even possible to find explanations for greatest anxiety in a second girl of four, and so on, ad infinitum. *This kind of research is a sheer waste of time and money.*[25]

Parenting Styles

Behavioral geneticists accepted Ernst and Angst's advice and gave up on birth order. But they gave up reluctantly, because it would have been an ideal way out of their dilemma. They already knew that parents' behavior can vary—that parents act differently toward different children. What they needed was a way of showing that these variations in parenting are not simply a response to the children's preexisting characteristics (child-to-parent effects) but that they actually have measurable effects (parent-to-child effects) on the children's personalities. Birth order effects could have done that. If differential parental behavior such as favoring one child over another really does have an influence on the children's personalities, the consequences should have shown up in birth order studies, because more often than not the parents favor the younger child. But most studies—especially the larger, newer, more carefully done ones—find no differences between the adult personalities of firstborns and laterborns. The only logical conclusion to be drawn from these results is that microenvironmental differences such as parental favoritism have no consistent effects on the child's personality. No effects that are still detectable in adulthood.

Maccoby and Martin's first alternative was that parents have no effects on their children. Their second was that the aspects of parenting that do have effects must vary from one child to another within the family. Birth order effects were the one kind of evidence that could have provided support for the second alternative. The failure to find convincing evidence of birth order effects left it twisting in the wind.

In the years since Maccoby and Martin offered their Scylla-or-Charybdis choice, no tempting third alternative has turned up. Behavioral genetic studies continue to show that the family home has few, if any, lasting effects on the people who grew up in it. If there are any long-term effects, they must be different for each sibling and unpredictable, because they do not show up in studies in which data from a number of people are combined. Of course, if we

look at one particular person, it's easy to come up with a story about how the home environment (the critical, demanding mother, the ineffectual father) shaped the child's personality and produced the messed-up grownup we see today. That kind of post hoc speculation—unprovable, undisprovable—is the stock-in-trade of biographers.

Like the behavioral geneticists (and unlike biographers), socialization researchers have continued to turn out data. Many of them are still doing the same kind of studies they did before Maccoby and Martin—studies designed to find differences in parental child-rearing methods and to link these differences to the children's social, emotional, and intellectual functioning. These researchers are still looking for the effects of differences *between* families, not microenvironmental differences *within* families. I think it's necessary to examine this research a little more closely, since it is featured in every textbook of developmental psychology, including, alas, my own.[24]

In 1967, developmentalist Diana Baumrind defined three contrasting styles of parenting.[25] She named them Authoritarian, Permissive, and Authoritative, but I've always found those terms confusing so I will call them Too Hard, Too Soft, and Just Right.

Too Hard parents are bossy and inflexible: they lay down rules and enforce them strictly, with physical punishment if necessary. These are the shut-your-mouth-and-do-what-you're-told type of people. Too Soft parents are just the opposite: they don't *tell* their children to do things, they *ask* them. Rules? What rules? The important thing, they believe, is to give children lots of love.

The third choice is Just Right. You already know what these parents are like—I described them in the previous chapter when I was talking about broccoli eaters. Just Right parents give their children love and approval but they set limits and enforce them. They persuade their children to behave properly by reasoning with them, rather than by using physical punishment. Rules are not set in stone; these parents take their children's opinions and desires into account. In short, Just Right parents are exactly what middle-class Americans of European descent think that parents *ought* to be.

Baumrind and her followers have produced dozens of studies, all claiming to show the same thing: that the children of Just Right parents turn out better. The words are more convincing than the numbers, however. If you look closely at the data and the statistics, you'll see a lot of the kind of creative data analysis I described in the previous chapter. You take a lot of measurements of the parents and a lot of measurements of the children, so the chances are good that you'll get some significant correlations. If perchance you don't, you resort to the divide-and-conquer method. You look at boys and girls separately. You look at fathers and mothers separately. You look at white and nonwhite fami-

lies separately. Often, the benevolent effects of Just Right parenting are different for girls and boys, different for fathers and mothers. Often, the benevolent effects of Just Right parenting are found only for white kids.[26]

But I am quibbling. Looked at as a whole, these studies do show a modest but reasonably consistent tendency for good parents to have good kids. The children of Just Right parents tend to get along better with other kids and other adults and to make better grades in school. They get into less trouble in their teens. In general, they manage their lives in a competent fashion—slightly more competently, on average, than the children of Too Hard or Too Soft parents.

The trouble with these findings is that they conflict with the behavioral genetic data. Remember that the style-of-parenting researchers are looking for differences *between* families—ways in which the Smith family is different from the Joneses. They typically look at only one child per family—one Smith, one Jones. The behavioral geneticists, on the other hand, look at *two* children per family, and what do they find? They find that it makes little or no difference whether a kid grows up in the Smiths' house or the Joneses'. The two Smith kids are similar in personality only if they are biological siblings. If they are adopted children it doesn't matter whether they both live in the Smiths' house or one of them lives with the Joneses—in either case they are not similar at all.

The implications of the behavioral genetic findings are unavoidable. Either the parents' child-rearing style has no effects on the children's personalities (Maccoby and Martin's first alternative), or the parents do not have a consistent child-rearing style (I'll call this alternative 2a), or they have a consistent style but it has different effects on each child (alternative 2b). Not one of these alternatives is compatible with the views of the style-of-parenting researchers, not even 2b. If being a Just Right parent makes some children better and others worse, what's the point of studying child-rearing styles?

I do not believe that parents have a consistent child-rearing style, unless they happen to have consistent children. I had two very different children (one of them is adopted but the same thing can happen with biological siblings) and used two very different child-rearing styles. My husband and I seldom had hard-and-fast rules with our first child; generally we didn't need them. With our second child we had all sorts of rules and none of them worked. Reason with her? Give me a break. Often we ended up taking the shut-your-mouth-and-do-what-you're-told route. That didn't work, either. In the end we pretty much gave up. Somehow we all made it through her teens.

If parents adjust their child-rearing style to fit the child's characteristics, then Baumrind and her colleagues might be measuring child-to-parent effects

rather than parent-to-child effects. It's not that good parenting produces good children, it's that good children produce good parenting. If parents *don't* adjust their child-rearing style to fit the child, then Baumrind and her colleagues might be measuring genetic effects rather than environmental effects. It's not that good *parenting* produces good children, it's that good *parents* produce good children.

Here's what I think. Middle-class Americans of European descent try to use the Just Right parenting style, because that is the style approved by their culture. If they don't use it, it's because they have problems or their kid does. If they have problems, it could be because they have disadvantageous personality characteristics that they can pass on to their kid genetically. If the kid has problems—a difficult temperament, for instance—then the Just Right parenting style might not work and the parents might end up switching to the Too Hard method. So among Americans of European descent, parents who use a Too Hard child-rearing style are more likely to be the ones with problem kids. This is exactly what the style-of-parenting researchers find.

In other ethnic groups—notably Americans of Asian or African descent—cultural norms differ. Chinese Americans, for example, tend to use the Too Hard parenting style—the style Baumrind called Authoritarian—not because their kids are difficult, but because that's the style favored by their culture. Among Asian and African Americans, therefore, parents who use a Too Hard child-rearing style should *not* be more likely to have problem kids. Again, this is exactly what the researchers find.[27]

What they find, in fact, is that Asian-American parents are the most likely of all American parents to use the Too Hard style and the least likely to use the Just Right style, and yet in many ways Asian-American children are the most competent and successful of all American children. Although this finding contradicts their theory, the style-of-parenting researchers continue on undaunted.

And it isn't just them—other developmentalists do the same thing. Data that conflict with the nurture assumption are ignored, ambiguous data are interpreted as confirmation of the nurture assumption.

Other Between-Family Differences

Differences between families are often a function of parental characteristics that are partly genetic, which means that many of the results reported by socialization researchers can be due to genetic transmission of traits from parents to children. When parents have trouble managing their own lives or getting along with others, their children are subject to a kind of double jeopardy,

because they are at risk of inheriting disadvantageous genes and also of having a lousy home life. If such children do not turn out well, their problems are usually attributed to their lousy home life, but the true cause could be their disadvantageous genes. In most cases it's impossible to tell.

Let us look, therefore, at a few between-family differences that do not depend on advantageous or disadvantageous characteristics of the parents. Parents make some kinds of lifestyle decisions that are unrelated to how successful or unsuccessful they are at managing their lives.

For example, a classic question in developmental psychology is whether the children of mothers with paying jobs differ in personality or behavior from those whose mothers stay at home. In previous generations, mothers stayed at home unless their husbands couldn't make a decent living, and back then most developmentalists believed that the children of working mothers were at risk of psychological dysfunction. But now that working mothers are found in all walks of life, children whose mothers have jobs are found to be virtually indistinguishable from the minority whose mothers stay home. A developmentalist who was asked to write a review on the effects of maternal employment on children said that "few consistent differences emerge" and ended up writing mostly about the effects on the parents.[28]

A related issue concerns the effects of day care. When only families with problems put their kids into day-care centers, institutional care was thought to be bad for young children. Now day-care centers are used by well-off families as well as the not-so-well-off, and it no longer seems to matter whether babies or preschoolers spend most of their daylight hours there or at home. In a 1997 review, a developmentalist asked the question, "Do infants suffer long-term detriments from early nonmaternal care?" The studies she reviewed, she concluded, "have demonstrated that the answer is 'no.'" Even the variation in quality among day-care centers makes less difference than you might think: "The surprising conclusion from the research literature is that variation in quality of care, measured by experts, proves to have little or no impact on most children's development."[29]

Researchers have also looked at the effects of homes that vary in family composition and lifestyle. There are still many families that consist of a mother and father and kids, but an increasing number have less conventional arrangements. When the unconventional arrangement is inadvertent—the result of a failed marriage or a failure to marry—there is an increased risk that the kids will experience failures in their own lives (I discuss the plight of the children of divorce and single parenthood in Chapter 13). But when the unconventional arrangement results from a consciously made lifestyle decision, no differences in child outcome have been found. Researchers in California studied a sample

of unconventional families over a period of many years. Some of the parents were hippies and lived on communes; others had "open marriages"; still others were unmarried women with good jobs who made the decision to become single parents. The children of these parents were as bright, as healthy, and as well adjusted as children who lived in more conventional families.[30]

Another kind of unconventional arrangement involves children being reared by lesbian or gay parents. Here again, no important differences have emerged: children with two parents of the same gender are as well adjusted as children with one of each kind.[31] There appears to be nothing unusual about their sex-role development: the girls are as feminine as other girls, the boys as masculine as other boys. Researchers have found no increased tendency for children raised by homosexual parents to become homosexuals themselves, but as yet there have been no large-scale studies. Evidence from genetic studies suggests that genes may play a role in sexual orientation, and if this is the case we would expect homosexuality to occur with greater frequency among the biological offspring of homosexuals.[32] Psychologists no longer consider this to be a sign of maladjustment.

Many of the children in conventional families are "accidents": more than 50 percent of the pregnancies in the United States are unintended.[33] But there are other families—a growing number of them—whose children were conceived at great cost and difficulty with the aid of modern reproductive technology. These children owe their existence to techniques such as in vitro fertilization. Although their parents provide a superior variety of parenting, the children themselves are no different from anyone else's: "No group differences were found for any of the measures of children's emotions, behavior, or relationships with parents."[34]

Another study looked at three kinds of unconventional families at once—those without fathers, those with lesbian mothers, and those created through modern reproductive techniques—by examining children conceived through donor insemination. Some of the mothers were lesbians, others were heterosexuals; some were single, others had partners. The children of these mothers were well adjusted and well behaved—in fact, their adjustment and behavior was above average—and the researchers found no differences among them based on family composition. The ones without fathers were doing as well as the ones with fathers.[35]

Among the many family differences that have an impact on a child's life at home, surely one of the most important is the presence or absence of siblings. The only child leads a very different life from the child with siblings. Her relationship with her parents is likely to be far more intense. She gets all the worry, responsibility, and blame heaped on the oldest child, plus all the attention and

affection heaped on the youngest. In the past, when most families had at least two children and deviations from this pattern were usually a sign that something had gone wrong, the only child had a bad reputation. But people are marrying later now and having fewer children. Research done in the past quarter century has turned up no consistent differences between only children and children with one or two siblings. Minor differences do turn up, but sometimes they favor the only child, sometimes the child with siblings.[36]

Searching for the Key

Children who grow up in different families are likely to have very different home environments. Some have siblings; others do not. Some have two parents of opposite sexes who are married to each other; others do not. Some are cared for exclusively by their mothers and fathers; others are not. These major differences between families have no predictable effects on the children reared in them—a finding that agrees with behavioral genetic data. Less obvious differences between families—namely, the parents' child-rearing style—are claimed to have predictable effects, but, as Maccoby and Martin pointed out, the reported effects are weak and can be accounted for in other ways.

That leads us back to Maccoby and Martin's second alternative, that the only aspects of parenting that do have effects are those that differ for each child in the family. But if major differences *between* homes have no predictable effects, why should we expect the smaller differences *within* the home to have predictable effects? Does it make any sense to say that what matters is whether Mom loved you best, if it doesn't matter whether Mom was home or at work, married or single, gay or straight?

The idea that each child grows up in a unique microenvironment within the home was supposed to be a way out of the bind that behavioral geneticists found themselves in. Heredity can't account for everything: their work showed that only half the variation in personality traits could be ascribed to genetic differences between individuals. The other half, therefore, had to be due to the environment—which they, like everybody else, assumed meant "nurture." Only one behavioral geneticist, David Rowe of the University of Arizona, pointed out that parents aren't the be-all and end-all of the child's life and that the child has environments other than the home—environments that might be more important.[37] The others went on searching inside the home, like people looking for a lost key: "It's *got* to be in here *somewhere!*"

Perhaps you too are thinking, "It's *got* to be in there *somewhere.*" Everybody knows that parents make a difference! Fifty thousand psychologists couldn't possibly be wrong! What about all the evidence that dysfunctional families

produce dysfunctional kids? But genes matter too, and children can inherit from their parents the traits that caused or contributed to the family's dysfunction. (I'll take a closer look at dysfunctional families in Chapter 13. It's not just genes.)

It's not just genes. You believe in the power of the home environment because you've seen the evidence with your own eyes. Parents who don't know the first thing about parenting and their terrible kids. The explosive temper of the child who's been rewarded for throwing tantrums. The low self-esteem of the child whose parents are constantly belittling her. The nervousness of the child whose parents are inconsistent. And the noticeable differences in personality between people who grew up in different cultures. My job is not an easy one. I have to find alternative explanations for all the things you've observed that make you so certain that parents have lasting effects on their children.

Thomas Bouchard, a behavioral geneticist at the University of Minnesota, is one of the researchers working on the Minnesota Twin Study. In 1994 he admitted in the journal *Science* that how the childhood environment influences adult personality "remains largely a mystery."[38] Perhaps a greater mystery is why psychologists have remained fixated for so long on the notion that people's personalities are formed by some combination of nature and nurture. Nature—the DNA we get from our parents—has been shown to have effects but it can't be the whole story. Nurture—all the other things our parents do to us—has not been shown to have effects despite heroic efforts on its behalf.[39]

It is time to look for another alternative, None Of The Above.