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women's rise: **avork inprogress**



OOKING BACK over the last 30 years, it is impossible not to be impressed by the enormous revolution that has occurred in a relatively short time. Before 1970, few women held workplace positions of public power or authority. Only a handful had jobs in the top ranks of large companies, and even fewer were members of Congress or in Cabinet or top judicial positions. Women reporters worked in the newsroom, but almost none held positions of editorial responsibility at the most prestigious newspapers or appeared on television as anchor or even reporter on the evening news. Almost half of all college-educated women did not work, and those who did tended to be concentrated in nursing, elementary and secondary school teaching, and other traditional female occupations. In 1970, only 4 percent of architects, 5 percent of lawyers, 5 percent of veterinarians, and 10 percent of physicians were women.

By the dawn of the twenty-first century, this picture had changed radically. Today, women on their Recent data show declines in labor force participation for highly educated women, but the causes of these changes are not easy to identify



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way to the top not only have become more numerous, but they also have made substantial progress toward parity with men. Young women in college today are far more likely than before to choose majors in career-oriented and technical fields and to wait to marry and start families, as Claudia Goldin points out. They account for 60 percent of the bachelor's degrees in biological sciences, 50 percent in business, 47 percent in math, and 42 percent in physical sciences. They attend and complete college at rates that exceed those of young men, as Kathryn Shaw notes. In 2004, for the first time, women comprised more than 50 percent of the students admitted to the freshman class at Harvard College.

These changes in educational focus and attainment have been mirrored by shifts in the labor market. Today, almost threequarters of all women between the ages of 25 and 64 are in the labor force, and the gap with men has narrowed substantially. This is even more apparent for college-educated women, who have labor force participation rates of 80 percent. Women now account for about half of all managerial and professional occupations, including 22 percent of architects, 28 percent of lawyers, 39 percent of veterinarians, and 30 percent of physicians. And these percentages are likely to rise as older professional workers (who are disproportionately male) retire. In that case, in the absence of pay discrimination, they actually should be earning more.

All of these changes in the workplace have been accompanied by heartening changes in attitudes. In 1977, 74 percent of working men and 52 percent of working women agreed that "men should earn the money and women should take care of the home and children," according to a study by the Families and Work Institute. By 1997, attitudes had shifted, particularly among men, with 42 percent of working men and 40 percent of working women agreeing with the statement. Similarly, in 1977, only 49 percent of working men felt that an employed mother could "have just as good a relationship with her child as a mother who does not work outside the home"; by 1997, 62 percent agreed. Working women had apparently already figured this out; 70 percent agreed with the statement in 1977, rising to 73 percent in 1997.

Is the pace of change slowing?

Yet despite the progress, gender equality is still not a reality. And nowhere is this more apparent than at the very top—where barriers continue to be very much in evidence. As of 2004, there were only eight women CEOs among *Fortune* 500 companies (1.6 percent), up from two in 1992. Progress has been slow when compared to the perhaps optimistic predictions made

The last 30 years have also seen a substantial narrowing of

In the 1970s and 1980s, married women with young children and high-wage husbands experienced the largest gains in paid employment and earnings

the gap between what men and women earn, whether measured by hourly pay or annual earnings. As Joyce Jacobsen notes, women (and especially younger cohorts) have gained in pay relative to men.

For those few women who manage to make it to the very top, wages also appear to have converged rather substantially. In a study of the five highest-paid executives in 1,500 corporations, economists Marianne Bertrand and Kevin Hallock find that women's representation in this group nearly tripled between 1992 and 1997 (reaching a modest 4 percent). Although these women earned 45 percent less than men on average, almost all of the difference could be accounted for by the facts that they were more likely to work for smaller companies (which pay less than big ones for the same job title); less likely to have the highest-paying titles (CEO, chair, president); and were younger, on average, with less seniority than the men. This suggests that the observed gap could dissipate over time as women gain experience and move into higher-paying titles at larger companies. Indeed, Bertrand and Hallock find that women's compensation grew relative to men's over the five years they studied, mostly because women gained representation in the largest corporations. Nonetheless, the authors do not rule out the possibility of discrimination. And other analysts have noted that if it is more difficult for women to achieve the very top positions, those that do may be even more qualified than their male counterparts.

early on in this revolution. In a 1979 survey of women officers in 1,300 large companies, 30 percent expected to see 50 *Fortune* 500 CEO slots held by women by 1999. Even Herman Kahn, founder of the conservative Hudson Institute (and reportedly a model for the Dr. Strangelove character in the Stanley Kubrick film), predicted that women would hold 10 percent of the top spots by the turn of the century.

The stubbornly slow pace of change at the top is also evident elsewhere in the economy. A recent study of top research departments in U.S. universities found that women's share of full professorships in the sciences ranged from 3 percent in engineering to 15 percent in psychology, leaving the growing number of undergraduate women in these departments with few female role models. And when the three major network news anchors recently announced their retirement, the most likely replacements being mentioned in the press were all white men. Noted retiring NBC anchor Tom Brokaw in *The New York Times*, "I honestly thought, eight or nine years ago, that when we [the three anchors] left, that it would be the end of white male anchor time I think we are still stuck in a society that looks at white males as authority figures."

A number of statistics and indicators also show evidence of a slowdown in the pace of change. Women continue to increase their representation among college and graduate-school students and also among undergraduates studying technical fields.



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However, the rise in the share of women among engineering B.A.s has slowed (rising from less than 1 percent in 1970 to 13 percent in 1986, but to only 19 percent by 2002). The female share of computer science B.A.s has actually dropped, from 37 percent in 1984 to less than 28 percent in 2002.

As far back as the 1980s, women's labor force participation rates began to rise more slowly; during the 1990s, the U.S. Bureau of Labor Statistics (BLS) began reporting declines for college-educated women with young children and for married women with young children.

In addition, Jacobsen and a number of other researchers have noted the slowing rate at which women's wages are converging with men's. In a recent paper, Francine Blau and Lawrence Kahn point out that the ratio of women's median annual earnings to those of men (for year-round full-time workers) rose 9 percentage points (reaching almost 69 percent) between 1979 and 1989, but increased only another 3.5 percentage points by 1999. Particularly relevant to "reaching the top," they show that at the high end of the wage distribution, the gender gap hardly narrowed at all during the 1990s (and much less than during the 1980s). In addition, they find that among the top 10 percent of wage earners, the "unexplained" portion of the in the popular press have focused on high-powered women who, after trying to simultaneously work in prestigious jobs and care for home, husband, and children, have opted out of the workforce—some temporarily and some for longer periods—to mind their children while their husbands continue in the traditional income-earning role. A prominent example is the cover story in *The New York Times Magazine* (October 24, 2003) about "the growing number of highly educated professional women who are leaving ambitious career paths to spend more time with their families," not because they can't continue to achieve in the workplace, but because they choose not to. Another recent story in the Boston Globe (December 10, 2004), describes stay-at-home mothers as the new "status symbol" of a "privileged class." Such stories, along with the BLS data noted above, have raised concerns that the pipeline for the next generation of women leaders is diminishing and that hard-won gains from an earlier generation are being lost.

However, determining what might be driving this behavior is more difficult than it might appear. Economic theory suggests that how much any woman (or man) participates in the labor market depends on the interplay of several factors, including the wage rate she (he) can earn in paid work, other available

Since the mid 1990s, among college-educated women, married women with young children and high-earning husbands saw the sharpest participation declines

female-male gap (the part that can't be assigned to factors such as education and age) actually increased in the 1990s. While this might be the result of unmeasured differences between top-earning women and men, it is also consistent with a glass ceiling. The gains women made in the 1980s may have put more of them into high-level positions where discrimination or other subtle impediments could have had an increased impact on their forward progress.

Not all of this evidence is necessarily cause for concern. As women's share of advanced degrees or their share of jobs in a particular occupation approaches 50 percent, one doesn't necessarily expect to see further "improvement." The same is true with labor force participation rates and other measures of labor force activity or success: As women approach parity with their male counterparts, one would expect further change to slow and eventually cease. Moreover, if women's preferences are genuinely different (on average) from men's, as Nancy Folbre speculates, then we would not ever expect exact numerical equality across all fields of study and occupations. Nonetheless, the mixed picture does suggest that understanding the extent and causes of this slowdown is important if we are to continue improving the working and home lives of both women and men.

Are professional women "opting out"?

News accounts also have raised the question of a slowdown and reversal in some of the gains women have made. Stories sources of income, and preferences—the value placed on time spent caring for children and other family members, cleaning, preparing food, or enjoying leisure activities. A higher wage rate makes paid work relatively more attractive compared to unpaid work at home and/or leisure and will tend to raise labor market participation and hours. Indeed, rising real wages, increased personal fulfillment from and social acceptance of women in paid work, and declines in the cost of purchased substitutes for work at home (prepared foods, vacuum cleaners, etc.) explain much of the increase in women's labor market participation in the twentieth century.

Greater income from any other source, including higher earnings by spouses, tends to reduce an individual's time spent working for pay because it allows greater consumption of both purchased and "homemade" goods and services. The presence of young children at home increases the relative value of unpaid work and, all else equal, should reduce labor market participation and work hours. To working parents, the cost of child care is equivalent to a reduction in the wage rate—for every hour worked, an hour of child care must be purchased.

Yet much of the history of the past few decades seems to run counter to the simple predictions in the previous paragraph. In the 1970s and 1980s, the biggest employment and earnings gains for married women came from the wives of high-wage husbands, according to research by Chinhui Juhn and Kevin Murphy. During this period, increased market opportunities,



Men and women in the labor force

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Women entered the workforce in large numbers over the past four decades. However, growth in labor force participation by the most educated women slowed starting in the mid 1980s and declined in the late 1990s.





particularly for highly skilled women, appear to have been large enough—and more important than the availability of husbands' earnings—to tip women's decisions in favor of more paid work. In the 1980s, married women with young children markedly increased their involvement in the paid labor market, and at a faster rate than other women—perhaps because labor market opportunities and preferences were also changing more than enough to shift the balance.

This suggests that the term "opting out" as used in the press is ambiguous. Decisions to work, and how much to work, always involve some balancing of the relative rewards and costs of working for pay, unpaid work at home, and leisure-and this is particularly true for those in the upper part of the income distribution, who tend to have a larger scope of choice. Women (and men) who make a decision to reduce their involvement in paid work presumably do so because the additional cost in terms of family or leisure time foregone is not worth the resulting additional salary. Attributing a reduction in labor force involvement to "opting out" does not tell us whether some women's preferences changed, social norms shifted (making it more costly for women to work), some women's opportunities worsened (their wages declined or they hit a glass ceiling), or some families received additional income from a booming stock market or higher husbands' earnings.

Evidence from the Current Population Survey (CPS)

To examine these issues, we tabulated data on the labor market involvement over the last two decades of highly educated women and men—those with a college degree or more—of prime working age, defined as 25 to 54 years old. Published BLS data, such as those cited above, focus on college-educated women with young children or married women with young children, but not both, and typically have a wider age range.

The data we examine are useful for shedding light on "pipeline" issues for the upper echelons of the labor market because they are restricted to women with at least four years of college (who comprised 30 percent of women age 25 to 54 in 2004). Note, however, that they provide only limited insight into the handful of women who ultimately make it to the "very top."

Has labor market involvement declined for married women compared to divorced, separated, widowed, or never-married women? And among married women, are the reductions more pronounced for mothers with children living at home and/or women with higher-earning spouses?

We focus on labor force participation because it most clearly reflects an individual's or family's decision about whether or not to work (or seek work). We use data from all 12 monthly BLS surveys each year; thus, labor force participation rates are the fraction of women working or looking for work in an average week during the year. When calculating changes over the decade 1994 to 2004, we average data from 1994 and 1995 for beginning-of-decade participation rates and data from 2003 and 2004 for end-of-decade rates; this reduces the impact of economic conditions in a single year. We also look briefly at other measures of the intensity of women's labor market involvement, including the share working full time and the average weekly hours of full-time workers.

The analysis is complicated by a number of changes in the way BLS gathered information, resulting in "breaks" in the data in 1994 when these new procedures were implemented. In particular, the old procedures assumed that adult women were likely to be homemakers; thus, if they happened to be home when the BLS surveyor knocked on the door, they were more likely than men to be misclassified as not in the labor force ("keeping house") even if they were in fact employed (working a few hours a week) or unemployed (seeking work). The change resulted in a small jump in some women's measured labor force participation between 1993 and 1994, not because behavior had changed but because the revised procedures were more accurately classifying them.

What do we find? While highly educated women are much more likely to work in the first place, changes over time in their labor force participation are similar to those of other women. The labor force participation rate of prime-age women with at least four years of college rose in the 1980s and early 1990s, leveled out in the mid-1990s, and then declined. Between 1994–95 and 2003–04, the rate declined from 84.7 percent to 81.8 percent—about 3 percentage points. Meanwhile, prime-age, highly educated men's participation rates also declined about 1 percentage point, to 95 percent in 2003 and 2004.

The decline was most pronounced for married women with children under the age of three, whose participation dropped about 8 percentage points. (Women on maternity leave under the Family and Medical Leave Act (FMLA) are counted as employed; thus these measures understate the extent to which women with very young children are taking time out—and understate the drop if more women were taking advantage of its provisions as the decade wore on.) Married women with school-age children (6 to 17 years old) decreased their participation after 1994, but only modestly, by 2.6 percentage points. By contrast, highly educated, married men with children under age 18 at home have *higher* participation rates than those without children; their participation rates were fairly stable over the two decades and did not appreciably decline after 1994, while rates for married men without children slid by about 3 percentage points.

Since these data provide a snapshot at a point in time, we cannot tell whether mothers who are not in the labor force in the survey month are out for only a short period or for the longer term. But if the declines reported above reflect increases in relatively temporary exits after childbirth (beyond FMLA leave lengths but shorter than a year or two), one would not expect mothers whose youngest child is three to five years old to have lower participation rates and steeper declines than those with school-age children, which they do.

Post-1994 declines in participation rates were somewhat larger among mothers with higher-earning husbands (in the top two-thirds of college-educated women's husbands) than among those with husbands earning relatively less (in the bottom third)—although the differences are not huge. However, mothers with the highest-earning husbands (top third) showed particularly steep declines during the late 1990s, with a 10-point drop between 1997 and 2001, after which their participation began to rise again. Mothers with middle- and low-earning husbands saw more gradual and consistent declines.

Married women without children at home also reduced their labor force participation after 1994 (having increased it in the 1980s), but the decline, like the preceding rise, was more gradual than for those with children. At the same time, the decline in participation for married women was greater than for divorced, separated, widowed, or never-married women. Labor force participation for the latter group held fairly steady until the early 2000s, with the ensuing decline possibly attributable to the recession.

Other measures provide somewhat less evidence of reduced labor market involvement for highly educated women after 1994. The fraction of prime-age college-educated women working full-time rose modestly, then leveled out at nearly 83 percent, and fell only after 2001, perhaps the result of the recession, and only by a small fraction. Patterns were similar for married and unmarried women; only mothers of young children (under age three) became noticeably less likely to work full-time, and even then only temporarily, with the share working full time declining between 1994 and 2001 and then rising from 2001 to 2004. Similarly, the average weekly hours of women working full-time declined after 1994, but the declines were small—one-quarter to three-quarters of an hour-and varied only slightly with marital status or for mothers with school-age children. Mothers of young children cut their weekly hours slightly more-by about one hour per week.

While these patterns run somewhat counter to the evidence on labor force participation, they are not surprising. Many studies show that decisions about work hours or full-time status

For highly educated women, the declines in labor force participation were greatest for married women with small children...

Percent in labor force (married, college-educated women and men, age 25 to 54)



...and for women with relatively high-earning husbands.

Percent in labor force (married, college-educated women, age 25 to 54)



Married women without children and unmarried women also reduced their participation, but more gradually.

Percent in labor force (college-educated women, age 25 to 54)



Source: Authors' calculations from annual averages of monthly Current Population Survey data, 1994 to 2004

Notes: Middle panel: College-educated wives are classified into three groups based on whether their husbands were in the top, middle, or bottom third of the distribution of their husbands' usual weekly wages. Lower panel: Unmarried women include divorced, separated, widowed, and never married.

tend to be less responsive to income and wages than decisions about whether to seek work at all. Jobs are often offered in relatively inflexible work-hour configurations set by employers, and many women (and men) have limited ability to vary their hours of work. Even during the 1970s and 1980s, when women were entering the labor force and nontraditional occupations in large numbers, the increase in the percentage working full-time was very modest.

Possible explanations

With this evidence on some of the recent changes in the labor market behavior of highly educated women, we return to the question of explanations. What follows is a brief discussion of a number of possible factors suggested by economic theory. In particular, what might have changed to cause the observed post-1994 patterns? While a full assessment is well beyond the scope of this article, our goal is to move beyond the notion of "opting out" to consider more clearly defined explanations and their potential implications.

Women's wages and labor market opportunities. Women's (and men's) wages play a key role in determining their participation in paid work. Moreover, increases in women's wages and market opportunities are frequently cited as central to the large influx of women into paid labor in the 1970s and 1980s.

Did something change? Blau reports that real weekly wages for college-educated women declined very slightly in the 1970s, rose more than 15 percent in the 1980s, and then grew more slowly—increasing at only about two-thirds the 1980s' rate—in the first half of the 1990s. In our sample of prime-age, collegeeducated women, real weekly earnings rose 19 percent between 1983 and 1993 and less than 12 percent from 1994 to 2004. This slowdown in real wage growth might be an important reason for the observed drop in women's participation.

In addition, any slowdown in the expected trajectory of future wages—caused, for example, by an increase in discrimination or other subtle barriers—might also reduce labor market commitment. On the whole, overt discrimination has declined markedly over the past 40 years, and the wage convergence among the very top corporate earners found by Bertrand and Hallock confirms this view. Nonetheless, Barbara Reskin persuasively describes the persistence of subtle forms of discrimination. And, as mentioned earlier, Blau and Kahn found evidence consistent with an increased negative impact of glass ceiling barriers at the high end of the wage distribution in the 1990s.

A change in other factors that could cause women to discount their market wages might also have had an impact. If, for example, the costs of child care began rising relative to women's wages, women's "net" wages would decline. Similarly, changes in institutional arrangements that made it more difficult to balance work and family might cause women (and men) to discount their wages—for example, if the length of the standard work week rose or hours of work became less flexible. But most observers find the opposite—flexible work arrangements are spreading to more workplaces. On the other hand, as Rosanna Hertz notes, our society still tends to hold as an ideal the top executive willing to make a 24/7 commitment to her job. With more women moving into high-level jobs, institutions may be changing too slowly to keep pace, or the new arrangements may not apply to the very top.

Other family income. Greater increases in other sources of family income in the 1990s compared to the 1980s, such as husbands' earnings and the stock market, could also have been a factor in women's reduced labor market involvement.

However, the weekly earnings of the husbands of the women in our sample increased about 12 percent in real terms between 1983 and 1993 and rose roughly the same amount (11 percent) between 1994 and 2004. The decline in married women's participation in the data could be caused by husbands' faster earnings growth in the later period, but is not easily explained by the steady growth that occurred, suggesting that husbands' earnings were probably not the most important contributors to wives' participation declines during the 1990s. On the other hand, these data on wage changes are medians (half the women had husbands with higher earnings and half with lower), and provide no information about the connections between an individual wife's participation and her own husband's income. For example, wives of high-earning husbands could be reducing their participation in response to above-average wage growth for their husbands; if this were happening to a greater degree post-1994, husbands' earnings could still be an important part of the explanation.

Greater income from nonwage sources, such as higher stock market returns, could also have been a factor. Because stock holdings are more concentrated among high-income households (which also tend to be more educated), the 1990s boom would be expected to cause a decrease in college-educated women's labor supply, on average. One might expect a similar effect on college-educated men, but this is difficult to disentangle from other reasons for the long-term downtrend in men's participation.

Preferences and cultural norms. When economists use the term "preferences," they generally are referring to the intrinsic tastes of the individual making the decision. In addition, changes in social norms—larger-scale shifts in attitudes across many people—can have an impact similar to the effect of discrimination. A culture in which women are "supposed" to care for children, home, and husband imposes additional costs and constraints on women who would choose to work and achieve in the marketplace.

Did women's preferences or social norms change in the 1990s to put more value on their being at home? Changes in preferences and social norms are notoriously difficult to document and their impacts difficult to quantify. Yet, during a period when there are significant shifts in gender roles, the possibility that changing tastes are an important factor is hard to ignore.

Data from surveys by the Families and Work Institute suggest that individual attitudes and social norms of *working* men and women, at least, continue to move in the direction of supporting women's work. The share of working men who agreed that "men should earn the money and women should take care of the home and children" held steady at 42 percent from 1997 to 2002, and the share who thought that an employed mother could have "just as good a relationship with her child" rose by 2 percentage points (to 64 percent). For working women, the continuing trend away from traditional gender roles was even more stark, with a change in only five years of 3 percentage points (from 40 percent to 37 percent) on the first question and 5 percentage points (from 73 percent to 78 percent) on the second. Moreover, younger working men and women (under age 30 in 2002) were less likely to hold traditional attitudes than older workers, which both confirms the view that the tide is likely to jump into market work at the rate of their predecessors. However, this is a better explanation of why rates would rise more slowly than of why they are declining.

Labor market attachment and the timing of breaks. The observed pattern in labor force participation might be the result of a shift in the timing of women's labor force involvement over their lifetimes, rather than a change in the factors affecting the trade-off between market and nonmarket work. Delayed marriage and child-bearing have meant that women typically work more years—and also potentially develop stronger attachments to the labor market—before taking time out for children. Suppose that women today are taking longer breaks to care for children but intend to resume a heavily committed work-life

We still don't know whether women's preferences or social norms shifted, opportunities in the workplace worsened, or families had more income from other sources

not turning and also suggests that it is unlikely to revert in the future. At the same time, it is also possible that it became more socially acceptable for college-educated women to withdraw from paid work in the 1990s compared to the 1980s or 1970s—a shift which might not be captured in these questions because of the way they are worded.

The characteristics of potential entrants. Another possibility is that the women with the highest skills and market wages joined

the labor force during the steep run-up in participation rates in the 1980s, leaving the pool of potential entrants in the 1990s more heavily weighted toward women who face lower wages, have greater income from other sources, or who more highly value activities outside paid work. If this were the case, these women would be un-

"The Gender Gap in Top Corporate Jobs," by Marianne Bertrand and Kevin F. Hallock, *Industrial and Labor Relations Review*, October 2001.

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"The U.S. Gender Pay Gap in the 1990s; Slowing Convergence," by Francine D. Blau and Lawrence M. Kahn, National Bureau of Economic Research Working Paper 10853, October 2004.

"Wage Inequality and Family Labor Supply," by Chinhui Juhn and Kevin M. Murphy, *Journal of Labor Economics*, January 1997.

"Recent Trends in the Well-Being of American Women, 1970–1995," by Francine D. Blau, *Journal of Economic Literature*, March 1998.

"Changes in Women's Labor Market Involvement, 1994–2004," by Katharine Bradbury and Jane Katz, Federal Reserve Bank of Boston Public Policy Discussion Paper, forthcoming 2005. when they do return, while their counterparts of several years ago took shorter breaks if they returned, but were less likely to return, on average. Then the recent drops in measured participation could reflect a short-term adjustment to the shift in timing rather than a decline in women's cumulative lifetime participation in the labor market.

Beyond opting out

After rising steeply in the 1980s, college-educated women's labor force participation declined during the 1990s. The declines were very modest for unmarried women and for married women with school-age children, and small compared with the large increases that occurred during the 50 years following World War II. Overall, participation of all college-educated women remains high (almost 82 percent were in the labor force in 2004), and even higher for the subset with graduate degrees (almost 86 percent), although it is still less than their male counterparts (95 to 96 percent).

However, declines in participation were somewhat larger for married women and noticeably larger for mothers with young children or mothers whose husbands had relatively high earnings. These are exactly the women-those with alternative sources of income or higher values of their time out of the paid labor market-that economic theory predicts would be most affected by a softening of women's wages or an increase in impediments to advancement. Yet this same sensitivity also existed in the 1970s and 1980s, and participation among these groups of women rose especially steeply during those decades. Although these women may have the resources to leave paid work, they have not consistently chosen to do so. Hence our effort to move beyond the notion of "opting out" and more explicitly identify possible reasons for the shift in outcomes in the 1990s. Although we provide some evidence to help sort out which factors were more important, additional research will be required to put together all the pieces of the puzzle. *