



and then never does anything with the ideas. There should be a good place where you can tell people about an idea you have and find out if it is any good. But you end up in this dilemma. There are three kinds of ideas. Ideas worth money, good ideas that are not worth money but are still good, and simply bad ideas. If an

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idea is so good that it is a money maker or so bad that it will make you look foolish, you don't want to tell the world about it. None of my ideas are in the last category, of course. At least I don't think so. But still you are never sure if you are giving away something that should be earning money. Well, the heck with it. I will publish here and see where it gets me.

I had to paint a windowsill at home so I bought the varnish and some paint thinner. It took three coats. For the first coat I painted and cleaned the brush in paint thinner. When it came time for the second coat the brush was all stuck together. I could break the bristles up in pencil-width clumps but it still was no good for painting. Now what? I said the heck with it and went to the rag box and pulled out an old crew sock. I put my hand in a plastic bag and pulled the crew sock over it. Maybe I could paint with that as well as with a brush. I just dipped my sock covered hand in the varnish and see how well I could paint with that. I should have known better because nobody paints with a crew sock, right? It turned out no, it was not as good as using a brush--it was a lot better. The varnish went on smoother, more evenly, and in something like a quarter of the time. There were fewer drips, too. It ruined the sock. I found that for the third coat I needed to use a clean portion on the sole of the sock. Big deal. The value of a rag crew sock on the open market is nearly negligible. Well, it has already been noted by some that paint pads are a good idea. But the backing of a paint pad is a piece of plastic. It is not as flexible as a nice old crew sock. The sock really shapes itself to the surface being painted. Now, have I just given away an idea worth building an industry on, I doubt it, but who knows? I do think that paint pads are better than paint brushes, but this is better than either of them.

This next one is almost surely not a money-maker, but it could be a lifesaver. Many summers are really hot and at the hottest point

you hear about people actually dying from hyperthermia. Air conditioning is expensive, and many people, particularly the old cannot afford it. But there are people who die for the lack of it. Now when I was in grad school I had to study in an apartment that was between 100 and 105 degrees. There was no air conditioning. I could have gotten on my bicycle and rode to campus, but that would have gotten me even hotter. What I needed was a low cost heat pump. So I invented one and stayed cool for basically no money. What did I use? Wet clothing. I would soak a t-shirt in warm water, wring it out, and wear it. In the hottest part of the day I would also sit in front of a cheap electric fan. You know what the downside was? It took me a while to learn to use warm water rather than cold. Wearing cold water is as much of a shock as diving into it. Once I learned not to cool myself too much I found it fairly comfortable. If I had to deal with other people I would just pull a shirt over the wet t-shirt. It worked almost as well and is almost unnoticeable. Now I very rarely hear of anyone who dies

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from the heat who cannot afford a little water and it would have cooled them down considerably and perhaps saved their lives. I know. I still use this technique at home and especially when I travel. It works. So when the temperature hits 95, why is nobody telling people to do this to escape the heat. It could save lives. It also is really good for sunburn.

Hey, anybody out there have wacky ideas that work, I might publish them here.

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2. CLEAR AND PRESENT DANGER (a film review by Mark R. Leeper):

Capsule review: This is the best spy film to be released in several years. It is also the most intelligent film in the Jack Ryan series based on the Tom Clancy novels so far. Screen credit goes to three top-notch screenwriters. There is one breath-taking action sequence, a generous dollop of government skullduggery, and a plot that will seem

to be taken from headlines of recent U.S. history.  
This is as good as any of the James Bond films.  
Rating: high +2 (-4 to +4).

When the U.S. Coast Guard intercepts a derelict yacht floating in American waters, it discovers that it was the scene of a grisly set of murders. The victim was a prominent businessman and his family, all personal friends of U.S. President Bennett (Donald Moffat). Bennett is shocked and angry, particularly when investigation proves the murdered man had financial ties to Columbian drug lords. Bennett hints to his security advisors that the time has come to start striking back against the Columbian drug families. And the action taken and its results are the heart of this story.

Harrison Ford returns as Jack Ryan, and he remains a disappointing choice. Ryan is someone who should be alert, perhaps hyper-active, and should have a youthful appearance to live up to his boy scout image. Even with his character under fire, Ford seems only 90% awake. He is popular with audiences, but his acting is a liability, in my opinion. Donald Moffat returns to playing a President not unlike his Lyndon Johnson of T\_h\_e\_R\_i\_g\_h\_t\_S\_t\_u\_f\_f. Adding no new tricks to his bag, Harris Yulin, familiar for many roles as villains, plays National Security Advisor James Cutter. Willem Dafoe does not stretch his talents much as a commando. Anne Archer repeats her role as Cathy Ryan. Miguel Sandoval is a rather winning rich drug lord. It is probably Moffat and Sandoval who stand out as the better actors of the film. But the emphasis is more on the story than on acting.

Phillip Noyce, the director of the (recommended) thriller D\_e\_a\_d\_C\_a\_l\_m, and the less satisfying P\_a\_t\_r\_i\_o\_t\_G\_a\_m\_e\_s does have a better script to work from in C\_l\_e\_a\_r\_a\_n\_d\_P\_r\_e\_s\_e\_n\_t\_D\_a\_n\_g\_e\_r. Generally a script credited to three people will have some problems, but C\_l\_e\_a\_r\_a\_n\_d\_P\_r\_e\_s\_e\_n\_t\_D\_a\_n\_g\_e\_r seems to suffer from this less than most such films. That could be because of who the three people are. One is John Milius who wrote films like M\_a\_g\_n\_u\_m\_F\_o\_r\_c\_e, A\_p\_o\_c\_a\_l\_y\_p\_s\_e\_N\_o\_w, C\_o\_n\_a\_n\_t\_h\_e\_B\_a\_r\_b\_a\_r\_i\_a\_n, and general action films. Then there is Donald Stewart, veteran of M\_i\_s\_s\_i\_n\_g and the two previous Jack Ryan films. The third writer was Steven Zaillian, whose screen credits

include A\_w\_a\_k\_e\_n\_i\_n\_g\_s, P\_a\_t\_r\_i\_o\_t\_G\_a\_m\_e\_s, S\_e\_a\_r\_c\_h\_i\_n\_g\_f\_o\_r\_B\_o\_b\_b\_y  
F\_i\_s\_c\_h\_e\_r, and

S\_c\_h\_i\_n\_d\_l\_e\_r's\_L\_i\_s\_t. It is an unlikely trio, but it works in a script that has action and is cerebral. Somebody at Paramount was concerned about getting good writing and the screenwriting credits are as impressive as any of the other credits.

The script is good, but not perfect. Toward the end of the film the action starts becoming a little less intelligent and a little more action-oriented. In short, it becomes a little too reminiscent of James Bond films. Though an action sequence in the first third is very well done (if one ignores a touch of cliched slow motion). This one piece is the high point of the film and really leaves the audience breathless. After Ryan escapes from this trap, there is little else he does that is as impressive. A sequence intercutting between a formal ceremony and a bloody massacre perhaps borrows a little heavily from the "Godfather" films. Also refreshing in the writing is the presence of a strong and intelligent woman who is clearly not present for decorative value. But what is most impressive in this film is the moral ambiguity of Ryan's position. Ryan remains the hero to the audience, but for the first time in the series, a serious case could be made that he is not acting in the best interests of the United States.

Of course the classic spy film series to date has been the James Bond series. What I think is often forgotten is that the Bond films all too often had contrived and simplistic plots. They were better than this year's T\_r\_u\_e\_L\_i\_e\_s in that regard, but there was little to engage the viewer's mind. The plots were too dependent on chase sequences and fight scenes. The other extreme is a story like T\_i\_n\_k\_e\_r, T\_a\_i\_l\_o\_r, S\_o\_l\_d\_i\_e\_r, S\_p\_y in which everything that goes on is cerebral. The Jack Ryan films are a happy medium between the two and none more so than C\_l\_e\_a\_r\_a\_n\_d\_P\_r\_e\_s\_e\_n\_t\_D\_a\_n\_g\_e\_r.

There are more reasons to prefer Ryan to Bond for spy films. The Bond films spend a lot of time on sexual subplots. It is fun, but it takes valuable time from the plot. It is always clear that Ryan's best working organ is between his ears. Clancy's Ryan is a happily married family man who doesn't fool around ... in any sense of the word. With that screen time out of the way, the writing has more room for intelligence (no pun intended). And unlike in Bond

films which have long chase scenes, one never feels that it is action scenes alone driving the plot. The action pieces are there, but they serve the plot rather than the reverse. I think I can safely say that C\_l\_e\_a\_r\_a\_n\_d\_P\_r\_e\_s\_e\_n\_t\_D\_a\_n\_g\_e\_r not only has a more satisfying plot than any of the Bond films, it is even the best of the Ryan films. The basic idea of the last two films could really be told with some justice in one or two sentences each. That is most definitely not the case in C\_l\_e\_a\_r\_a\_n\_d\_P\_r\_e\_s\_e\_n\_t\_D\_a\_n\_g\_e\_r. The game keeps changing for Jack Ryan through the entire film. Rather than this being a two-sided game, there is the kind of chaos one gets with several sides pulling in different directions. The script makes clever use of recent U.S. history to tell parts of the story that there would not be time to tell explicitly in the film. C\_l\_e\_a\_r\_a\_n\_d\_P\_r\_e\_s\_e\_n\_t\_D\_a\_n\_g\_e\_r is the best spy films in several years. It also is as riveting as any Bond film ever made. I would give C\_l\_e\_a\_r\_a\_n\_d\_P\_r\_e\_s\_e\_n\_t\_D\_a\_n\_g\_e\_r a high +2 on the -4 to +4 scale.

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3. EVE'S RIB: SEARCHING FOR THE BIOLOGICAL ROOTS OF SEX DIFFERENCES by Robert Pool (Crown, 1994); GENDER AND CULTURE: KIBBUTZ WOMEN REVISITED by Melford E. Spiro (1979); FAILING AT FAIRNESS: HOW AMERICA'S SCHOOLS CHEAT GIRLS by Myra and David Sadker (Scribners, 1994) (reviewed by Dale L. Skran)

E\_v\_e'\_s\_R\_i\_b is subtitled "Searching for the Biological Roots of Sex Differences," and it is Pool's first book. I was intrigued at reading a complete, general survey of recent research into sex differences, and, indeed, Pool has provided the best such book I am aware of for the general reader. However, although not exactly an "old fashioned MCP," Pool has as his major thesis that there are significant biological sex differences, and that what he calls "identity feminists" are doomed to disappointment in their quest for an androgynous society.

Perhaps Pool's fundamental confusion is that since a difference exists, it must of necessity, have great significance. He spends so much time listing sex differences that little energy is left to consider how important they might actually be. For example, consider one of the more significant male/female differences, the "spatial skills," as measured by various obscure tests that involve rotating geometric figures. These skills are rather cavalierly assumed by Pool to be associated with engineering and science, although no engineers or scientists are interviewed on this topic. Further, rotating these geometric figures is said to be related to mathematical ability, but this is never documented either. We are told over and over that women perform much worse than men on such tests, however.

As a computer/software engineer with over thirteen years experience, I can state with confidence that I am rarely, if ever, called on to use any of these "spatial skills" on the job. Clearly some spatial skills are relevant to mechanical or civil engineers, but even here computers are now used for these sorts of tasks, making the ability to rotate solids in your head about as relevant as the ability to hit a rabbit with a stone or spear. As a writer, one supposes that Pool should be forgiven for knowing little about other professions, but these sorts of stereotypes are at the root of sexism.

It would have been illuminating to study various occupations as actually practiced and consider what kinds of skills are used. Aside from some very artificial, "mock hunting" examples like "skeet shooter" and "baseball pitcher" it is probably difficult to find a modern occupation where there is a meaningful difference in the expected gender balance (given equal support for both genders, of course). Even occupations that stereotypically involve spatial skills (plumber, auto mechanic) also involve perceptual skills and arithmetic (where women, are, on the average, superior).

In Chapter 1 ("Equal but different"), Pool reprises information gathered on female test score difference. Camilla Benbow's study of the mathematically talented showed that among 7th and 8th graders, boys with SAT-Math scores over 700 outnumbered girls 13 to 1, and 4 to 1 for scores over 600. Pool points out, correctly, that differences in classes taken are not likely to account for this difference, since boys and girls are generally taking the same classes in the middle grades. Benbow was, as you might expect, attacked for ignoring environmental influences, and is described as having spent most of the 80s looking for such influences. Her techniques included asking girls whether they liked math or not, whether their parents helped them, whether they thought it would be useful in their careers, and even their toy preferences in early childhood. Her conclusion, "After fifteen years of looking for an environmental explanation and getting zero results, I gave up."

It is interesting to note that another recently published book, F\_a\_i\_l\_i\_n\_g\_a\_t\_F\_a\_i\_r\_n\_e\_s\_s by Myra and David Sadker, seemed to

have no

trouble, using hidden cameras and careful analysis, in finding a wide variety of ways in which teachers discourage girls from becoming capable problem solvers, notably by being easy on them while challenging the boys. In fact, F\_a\_i\_l\_i\_n\_g chronicles such a widespread pattern of discrimination against girls in nominally "equal" classes that it is surprising that any girl ends up doing well in math. Benbow seems to believe that her surveys should have found different in attitudes, but it is clear that there aren't many! Girls, up to a point, like math, think it is important, etc. ... but they just aren't very good at it--because they are never allowed to experience the challenges that boys are, because they are discouraged from taking chances, constantly interrupted by

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teachers, given less time to answer questions, and generally ignored.

Pool goes on to cover the average-50 point difference in SAT math scores between girls and boys. He notes that in the 60s girls actually led in SAT verbal scores by 10 points, but now boys lead by 10 points. This is attributed to the fact that more girls than boys now take the tests, leading to a lower average score for females. This discussion suggests that girls may have been gaining in math as well, but the change in the test population has covered it up. Other studies are quoted that indicate that on other math tests, girls have been trending upward. Girls are said to be better than boys at arithmetic but worse at problem solving. Pool constantly assumes that conditions for girls are improving in the schools, and that over time their scores will trend upward to some biological limit. A brief glance at F\_a\_i\_l\_i\_n\_g suggests Pool's depth of naivete--although superficial changes have been made, schools basically function to reinforce traditional sexual roles in a highly effective fashion. It is also interesting to note that the sort of subtle "guiding" that the Sadkers' document might produce exactly the differences noted--boys being better at tougher problems, and girls excelling at rote, easy to understand arithmetic problems.

For me, one of the most telling points was that the originators of the "IQ" test, Binet (of Stanford-Binet), removed questions that



women tended to get right more than men to give the sexes equal scores (page 22). Of course, if men had tended to get higher scores, we can be sure that this would have been touted as "proof" of male superiority. Pool then notes several areas where girls do better than boys, including average number of words used in sentences, number of grammatical errors, use of more complex grammatical constructions, and remembering details of a story read to them. Girls and boys are more or less evenly represented among high verbal SAT scores, and Pool puts forward as a probable reason the SAT's use of verbal analogies, the one type of verbal test where boys do significantly better than girls. Since this type of question has been removed in a recent revision of the SAT, we can reasonably expect the female average verbal SAT to exceed that for boys, at least among high scorers. It is also noted by Pool that boys make up most of the poorer verbal students, including 80% of stutterers and 75% of severe dyslexics. This last data does indeed point to some kind of underlying biological explanation.

Other interesting gender differences include:

1. Males are better at map reading, while females can more easily find their way using landmarks. This has been confirmed in rats (comparing the use of visual orientation vs landmarks), so it seems more likely to be of a biological nature.

2. Males learn better when taught using different methods in combination (i.e., learning a maze both forward and backward), while females learn better when taught using only one method. They may even find using two methods to be confusing.

One of the annoying things about Pool is his tendency to regard his experience with his wife as relevant to all women. Although the various anecdotes he mentions make the book more amusing, they represent a fundamental scientific error--extrapolation from a single example. If Pool's wife were more mathematically talented, it seems possible the book would have focused more on how women are discouraged from studying math rather than on how females are biologically inferior at math. In either case, one example proves

little, yet his one example seems to have determined the direction of his thesis ("different but equal").

Chapter 1 concludes with a touching essay on the theme that people tend to get all excited over these differences, quoting sociologist Alice Rossi as saying "there is no rule of nature or of social organization that says men and women have to be the same or do the same things in order to be socially, economically, and politically equal (page 34). Pool asserts that saying women must be just like men in all aspects to be equal is doomed to failure. Although vacuously true on some level, it fails to document the fact that some roles do really matter. If all politicians are men, and females don't control any countervailing institutions in society, "equality" will be little more than a sham. If mathematically talented men control the direction of science, and science determines the direction of society, then the fact (if it is a fact) that women lack high levels of mathematical talent effectively excludes them from any real involvement in the future evolution of society. If men are garbage collectors and women nurses, it probably doesn't matter much, unless, as in the real world, garbage collectors are paid twice what nurses are paid. We'll return to this theme when Pool examines the kibbutz lifestyle as the final capstone for his argument.

Chapter 2 ("A Tale of Two Sexes") examines in more detail various studies of gender differences. Here we get the basic facts:

1. Men are 9% taller than women, on the average.
2. 40% of male body weight is muscle, vs. 23% for females. (I'd like to see this comparison for Olympic athletes instead of average people).
3. Females hear high pitched sounds better than males
4. Males are more sensitive to bright lights than females.

5. Males can more easily see moving objects than females.

6. Males are 60% more likely to be involved in fatal car accidents, but females experience 12% more accidents per mile driven.
7. Females have superior night vision than males.
8. Males have better mid-field vision, but females have better peripheral vision.
9. Males are more likely to be color blind.
10. Females have a superior sense of touch, smell, and taste.
11. Males tend to be superior in throwing and catching objects.
12. Females live longer in the US.
13. Males are more prone to ulcers (confirmed by experiments on rats).

Events take a more dubious turn when Pool recounts four "myths" that according to Eleanor Maccoby and Carol Jacklin in  T h e P s y c h o l o g y o f S e x D i f f e r e n c e s  are untrue:

1. Girls are more "social" than boys.
2. Girls are more "suggestible" than boys.
3. Girls have lower self-esteem.
4. Girls are better at rote learning.

The Sadkers in  F a i l i n g  seem to have had little difficulty finding a large amount of evidence that girls of all ages had lower self-esteem than boys, and that female self-esteem decreased over time. Maccoby/Jacklin did their work twenty years ago, and the Sadkers used some new studies, but these kind of fundamental discrepancies in the quality of the research should raise our suspicions in general.

Pool then surveys, without (by his own statement) any consideration of possible cultural effects, various observed behavioral differences, including:

1. Boys' games are more active than girls' games.
2. Boys like toys they can move (trucks, blocks, etc.)

3. Girls prefer dolls and arts/crafts.
4. Girls do the same things for longer periods of time.
5. Boys games tend to have more complex rules than girl's games, and the boys pay more attention to the rules.
6. Boys tend to prefer team sports, girls individual sports.

To conclude Chapter 2, Pool surveys in more detail gender differences on special IQ tests. Many of these items are defined by "d", the "effect size," defined as the average male score minus the average female score, divided by the standard deviation. If  $d=0$ , there is no gender difference, while  $d > 0.8$  is a large gender difference. The book could use a few pictures to illustrate the overlap of various abilities, but for some reason none are included.

Among the items noted:

1. Women are better at "associational fluency," the ability to come up with synonyms for a given word, and by a large margin (about 2x better, but this results in  $d=1.2$ ).
2. Women are better at "word fluency," the ability to generate words starting with a given letter, but with  $d=0.2$ .
3. Women are somewhat better than men at anagrams, but also with  $d=0.2$ .
4. Men are better than women on spatial tests (rotating an object in your head, deciding what a three dimensional object will look like when flattened), with  $d=0.8$ .
5. Boys are better at throwing balls than girls, with  $d=3.0$ , the largest gender difference observed for any trait.
6. For height, the 9% average advantage results in  $d=2.0$ .
7. Females are better at "perceptual speed," the ability to compare items and notice differences.
8. Females appear to have a better short term memory than males,

at least for lists of words just presented in a test; however the males seem to have the edge in remembering pictures.

9. Females are 20% better at recalling details from a story just read.

One of the more controversial phenomenon is the greater variability of IQ (and other abilities) among males, with there apparently

being more "genius" IQs among males, as well as more "retarded" males. Here Pool quotes Arthur Jensen, best known for his attempts to prove blacks are lower in IQ than whites. He notes that some have questioned these results, but does not elaborate.

Several things can be noted from this consideration of gender differences on various tests:

1. As a skill becomes more complex (i.e., novel writing vs synonym generation) the gender differences drop on tests.
2. The difference in average scores is mainly very small, and probably has very little practical effect on the average person.
3. Nobody would care very much about this if it weren't for the big male advantage in spatial skills, and their supposed importance in various careers. (Pool notes that "high spatial ability is related to success in such diverse jobs as automotive mechanic, architect, and watch repairman.")
4. Of course, these measurements were taken mainly among adults or school children, and don't do more than indicate possible biological differences. It may be that if girls were given trucks and not allowed to engage in sexually segregated play that the scores would be much more similar. One experiment noted that boys had an advantage in playing a "shoot-em-up" type video game they were initially unfamiliar with, and that as they practiced, the male edge got greater. This is supposed to prove that the male edge was not due to more practice on their part (page 59). Isn't it just as possible

that the girls didn't give a \*!&\*\* and just didn't try very hard? A lot of these experiments remind me of researchers trying to develop a cat IQ test. In one case, cats were timed on how long it took them to escape from a sack. One cat refused to leave the sack, and spent about an hour playing by rolling about in the sack. Now, does this mean the cat couldn't have gotten out of the sack in five seconds flat if it wanted to?

5. The supposed greater male IQ variability, which is also the most difficult to ascribe a cultural explanation to, also provides the most concern, since it suggests that societies' leaders will always be men. It is interesting in this regard to examine a book titled "Terman's Kids," by Shurkin. Terman selected a large group of "geniuses" using IQ tests and followed them throughout their lives. More males than females were in the group (variability again). However, Nobelists Shockley and Alvarez tested too low to be in the group, which contained no other Nobelists! This suggests that whatever IQ tests measure, it is not the most relevant factor

for success in the sciences.

Pool concludes the chapter with another of his well-meaning but patronizing statements, "... men and women may carry different items in their toolboxes, but the toolboxes are the same size."

In Chapter 4 ("Echoes of the Womb"), girls with CAH (Congenital Adrenal Hyperplasia) are used as a tool to examine biological gender differences. In this disorder, girls receive high levels of testosterone in the womb. These girls outscored a non-CAH control group (their sisters) in spatial ability, as well as exhibited male-type toy preferences. However, the specific mechanism by which testosterone influences spatial ability has yet to be determined. For some reason, Pool never actually lists the scores of the various groups. Also, it is worth noting that the numbers of CAH girls tested is low since this is a rare condition, leading to the possibility of random clustering effects. This work has been substantially reproduced in rats, however, with maze running techniques being used as the gender differentiator (landmarks vs

external orientation). A variety of other hormonal conditions are considered, but the results are clear--male hormones influence greater spatial abilities. Left uncharted is the actual relationship that dynamic spatial abilities have to solving math problems.

Pool is at his most objective when considering the possible significance of various brain differences as they relate to males, females, gays, and lesbians (see Chapter 5, "My Brain's Bigger than Your Brain," and Chapter 6, "Not Quite the Opposite Sex"). However, when discussing IQs and math tests, he has a remarkable ability to fail to see obvious weaknesses in the various methodologies being used.

The bottom line here is that there are gender based differences (male brains, are, on the average, somewhat larger), and that nobody really knows what the differences mean (i.e., there are results, but they are controversial!). For example, does the gender difference noted above mean that men are smarter or that their neurons are less efficient? In any case, the correlations between brain size and IQ seem small.

In Chapter 7 ("Variations on a Theme"), Pool looks at gender differences in how the brain processes information. For example, it appears that in boys the right hemisphere is involved in identifying shapes, while in girls both hemispheres are equally involved. Once again, we see a lot of differences listed, but the significance is mainly muddy. Also, once again a chapter concludes with a personal note as Pool returns to his wife once again, this time to consider her as a mix of "masculine" and "feminine" traits. Perhaps the most surprising thing about gender differences is that although they do seem to be hormonally influenced, they aren't

really that great, and there seems to be \*a lot\* of variation in each sex.

Pool examines an interesting hormonal experiment in Chapter 8 ("Raging Hormones"). In this experiment, women were given a spatial test with a large variation (5 of 6 males outperform the average female) either during their menstrual period, or during the

period in which they were taking the Pill (which contains estrogen). The scores during the menstrual period were much higher--closing 2/3 of the male/female gap. This suggests that certain abilities are not only variable genetically (between people) and variable based on gender (due to hormone influence in the womb), but also in the same person over time based on the ebb and flow of hormones (which also occurs in males). For example, in monkeys who win fights, testosterone levels rise, while in monkeys who lose the levels drop. It is also interesting to note that a relatively modest change in hormonal levels nearly erased the gender difference, suggesting that the underlying brains are very similar in capability, but that the hormones have some considerable influence. It is also worth noting that the variations observed are not that significant--the women with the high estrogen levels could still perform the tests, just with a few mistakes perhaps.

Additional tests indicated that high levels of estrogen improved manual dexterity in females. These tests also showed that only about half of the women experienced that fluctuation of ability with hormone levels. Tests on men produced the surprising result that too much testosterone produced low spatial ability scores! Overall, there appears to be an optimal testosterone level for many spatial skills which is higher than what the average woman has, but lower than what the average man has.

Chapter 9 ("Nature/Nurture") is one of the more disappointing efforts, consisting as it does mainly of Pool's meanderings rather than solid scientific results. One of the more interesting studies shows that female newborns make 50% more eye contact with care-givers than males. This in turn seems to result in mothers touching their boys more, and talking to their girls more. This apparently leads the boys to be more confident since they are cuddled more, and the girls to have higher verbal skills. The point is that very small gender differences at birth get exaggerated rapidly due to different "micro-environments" experienced by the two sexes. Once group play occurs, any nurturing boy or ball-throwing girl rapidly gets the message and is forced into "appropriate" play. Even spatial ability is influenced; since boys can't see faces very well, they like to play with things they can see--blocks, trucks, etc., which in turn may help to develop spatial ability. Some experiments are also discussed that show that male and female rats develop different neural patterns when placed in a stimulating environment, but the exact meaning of these differences, as noted above, remains



obscure.

Another interesting result comes from IQ twin studies. In these studies, the IQs of twins raised separately and apart are studied, along with the IQs of unrelated adoptive siblings. Roughly, IQ seems to be about 50% inherited. However, the 50% of the variation in the environment is n o t due to such things as books in the house, etc. that are the same for all people living in the same house. The environment that matters is mainly other things that are different even for people living in the same house, such as being born or adopted first.

Here Pool begins some questionable meanderings, concluding that "In order for nurture to be responsible for a big difference among individuals, there must be some major differences in the environments in which they were raised. Such things as disparities in parental encouragement or having different toys to play with just won't have major consequences on average." A study by Lytton and Romney is quoted to conclude that "... parents in Western societies don't treat their sons and daughters that differently, except to teach them how society expects boys and girls to behave." He (Pool) then states "Is that enough to create the observed sex differences ...? Many sex difference researchers think not, given that all environmental influences, ... account for less than half the variation in cognitive abilities ... (page 219)." Pool seems to have forgotten that no gender difference is really that great (9% difference in height average is one of the biggest), and the difference in male/female micro-environment is so extreme that it could easily account for much of the observed differences.

On page 220, Pool starts to look for confirmation for his thesis in cross-cultural studies. One study compares Japanese students with American students. Not too surprisingly, Japanese girls beat American boys with ease, but, in "confirmation" of his thesis, Japanese boys still beat Japanese girls. One must question a methodology that involves confirming a test in one sexist society with a test in another, even more sexist society! It would have been more interesting to look at a society where women are very strong in the professions (e.g., some Eastern European countries). In truth, however, there is no society I know of where women are truly treated "equally," with the possible exception of some primitive island societies that don't use math very much!

Pool presents the common place modern version of the evolution of sexual differences (Chapter 10, "Echoes of the Past"), with the stone throwing men developing their spatial skills and the plant gathering women developing perceptual speed (ability to extract detail from a background). Just this very day I was walking with my wife (I can use my wife as an anecdotal example too!), and she

pointed out a nearby butterfly. I, of course, could not see the butterfly until it moved! Pool notes that the greatest sex

difference is the ability men have to throw rocks fast, which is greater even than the difference in the rotation skills. However, the modern significance of these kinds of skill differences seems arguable. Often, the focus seems to be on what men do better than women rather than the reverse. For example, consider the combat platoon. In such a group, one person "walks the point" to look for booby traps. Surely women, with their greater perceptual speed and body awareness, better night vision, as well as superior senses of smell and hearing, would be better qualified than men for this hazardous task. The difference in male and female map reading techniques is also noted, with men understanding abstract directions and women landmarks. Surely a platoon of mixed sexes would be more likely to find its way than one that relied only on abstract maps or only on landmarks? In any case, Pool is so busy listing differences that he misses how men and women could, together, accomplish more as a team than as separate groups.

Pool concludes with Chapter 11 ("Where do we go from here?"), which is by far the least well thought out chapter. An annoying characteristic of Pool is his air-headed idealism. On page 246 he notes "Everyone agrees: Boys and girls should be given the same opportunities to learn and develop skills as they are growing up, and later in life men and women should be given the same economic, political, and social opportunities." In fact, the opposite is closer to being true, that many Americans believe women's main goal in life is to bear and care for children, and that "women's lib" is destroying the family. Of course, few will actually come right out and say they are against "equal opportunity," but they act like girls are better off at home.

An even more annoying quote comes from Dorothy Kimura, a sort of Edward Teller in the sex research field, who says, "The common inference that women are kept out of the sciences by systematic or deliberate discrimination is not based on evidence. One might as well argue that men are kept out of nursing careers by discrimination. Instead the process appears to be largely self-selection." (page 249)

Apparently, Kimura is unaware that in Russia, most doctors are women. What is so different in Russia, not noted for its egalitarian treatment of women (other than in propaganda, of course)? One fact is that doctors in Russia are very low paid compared to other professions, just like nurses in the United States. Clearly, women are completely qualified to \_ b \_ e doctors, and they also \_ c \_ h \_ o \_ s \_ e \_ t \_ o \_ b \_ e doctors in large numbers in Russia. Or is the "choice" being exercised that of men to fill high-paying, prestigious jobs, leaving women with the scraps? Of course, there is a vast amount of evidence that women are systematically excluded and harassed in scientific professions--I suggest looking at Science magazine's annual "Women in Science" issues for some "war stories."

Around page 249, Pool notes that mathematically excellent boys tend (according to Benbow) to focus on science and math careers, while mathematically excellent girls are, according to Benbow, "... more balanced" and tend to end up in many different careers. This has been my personal experience--of the better students in my high school, the three boys who were, arguably, the best, all became successful in math or science, while the girls went into a variety of careers, with varying degrees of success, and many had families and never pursued a higher education. Since focus is an essential element of success in any field, and women are constantly distracted by the pressure to have kids, raise kids, etc. while being told it is "against their nature" to do math, it should come as no surprise that the more focused men achieve greater success given equal ability. Pool implies that this lack of focus is biological in nature, but the evidence for this seems weak.

Pools says the only way these kinds of issues will be resolved is to start over with a non-sexist society--and he then claims this has already been done on the Israeli kibbutz, with the result that, once again, women "choose" to work with kids, avoid leadership

roles, etc. To check out his facts, I read \_ G \_ e \_ n \_ d \_ e \_ r \_ a \_ n \_ d \_ C \_ u \_ l \_ t \_ u \_ r \_ e :  
\_ K \_ i \_ b \_ b \_ u \_ t \_ z \_ W \_ o \_ m \_ e \_ n \_ R \_ e \_ v \_ i \_ s \_ i \_ t \_ e \_ d, by Spiro, Pool's  
main source, with  
startling results.

The kibbutz is actually a throwback to tribal living, with only two real job categories--agriculture and child rearing/home engineering. It should come as no surprise that kibbutz dwellers re-created the sexual division of labor typical of primitive agricultural societies. It also must be noted that the constant state of warfare with the Arabs probably exacerbated the "macho" tendency since hand-to-hand combat skills were greatly valued. We should also note that Israel (and the kibbutz) put great emphasis on having large Jewish families, and that everyone was learning Hebrew, an ancient language where the word for "husband" is also the word for "master."

The silliest example of Spiro's reasoning lies in his conclusion that "shame" has a biological basis. In the early days on the Kibbutz, girls and boys showered together, but eventually the girls demanded separate showers. This led Spiro to conclude that such differences were a triumph of nature over nurture. However, Spiro fails to note that adults on the Kibbutz went clothed at all times, clearly sending a message to the kids about what proper behavior was! Similar errors abound in his book, where the all-female nature of the child care staff is dismissed as an influence on early childhood development! Of course, there probably are some biological influences, but the kibbutz effort at producing a gender-neutral environment seems poorly thought out and clearly ineffective.

Surely this kind of example proves nothing, and gives us no guidance. If we are forced to live in a primitive tribal setting, hunting and gathering, or using stoop labor for agriculture, while surrounded by enemies that are constantly on the attack, it is well established that survival will mandate a strong sexual division of labor, since there really are significant sex-based skill differences that are relevant in this kind of living arrangement. However, aside from Kibbutz dwellers, the Amish, and tribes in remote areas, few people live like this anymore!

Of course, Pool does recognize these facts, but they don't alter his conclusion, "I think the idea of creating sexual equality in

the identity sense is a pipe dream--if a small group of ideologues building a society from scratch in the Middle Eastern desert couldn't do it, how can we?" (page 259)

Although Pool seems aware of his wife's "ambitions," his focus on "choice" and "sex differences" seems foreordained to be used by reactionaries everywhere to justify keeping women "in their place" and "out of the workplace." This field cries out for a modern, objective study of just what mental skills are needed to be a doctor, engineer, plumber, etc. and whether we should really expect there to be any sexual division of labor in our technological society.

It also cries out for some bold experiments that try to teach girls math and science in a truly non-sexist environment using techniques that are directed toward their methods of learning, some of which Pool mentions.

Any real effort to raise children in a non-sexist environment must include the following obvious points:

1. Equal numbers of males and females in child-rearing.
2. Active efforts to avoid contamination from television and other similar influences.
3. Participation only of parents that have equal status jobs.
4. Active efforts to continually observe all teachers to ensure that they are not engaging in unconscious sexual bias (see Sadker for some examples).
5. Constant training of parents to avoid the same effects.
6. Some kind of effort to ensure that girls get cuddled as much as male infants.
7. An effort to avoid the "channeling" effects of gender segregated play.

8. Avoid running against deep biological needs, i.e., keep families together, etc. The kibbutz sought to destroy the family and replace it with a collective life; this effort failed completely to destroy traditional family structures.

Pool is blissfully unaware (as only someone who seems to think all "female scientists" are "feminists" can be) that being the one or two women who "have chosen" to be engineers is a lot like being the one or two blacks who "have chosen" to eat at the white lunch counter--a rather dangerous act. Although "equality of results" may well be a "pipe dream" in some occupations, we are clearly so far from "equality of opportunity" that Pool's meanderings seem premature (although well intended). The "choices" discussion is so clearly tied in to current social attitudes that it is difficult to take seriously (see above on why women don't "choose" to be doctors). Pool gives it far more weight than it deserves.

Pool begins the book with a discussion of the hyena, where the female is tougher physically and generally dominant. The lesson I learned from all of this (including the Hyena) is not that women are "different but equal" but that gender in mammals is extraordinarily plastic, with only a knife edge between the two sexes. Pool also reinforced my view that women and men work better as a team on any given job (I'm not talking about raising kids, although it's true there as well) because there are somewhat different approaches. A diversity of views and abilities is key to success under rapidly changing conditions, in business, science, or war.

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I and my public understand each other well; it does not hear what I say, and I don't say what it wants to hear.

-- Karl Kraus

