

Whom Are Newborn Babies Said to Resemble?

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We tested a series of hypotheses derived from the view that allegations of resemblance of newborns are motivated responses to the problem of uncertain paternity. Paternal resemblance was alleged far more often than maternal resemblance by videotaped mothers immediately after birth and by questionnaire respondents (mothers, fathers, and relatives on both sides). This bias was evident for infants of both sexes, albeit for sons more than for daughters. It is evidently normative to remark paternal similarity: 25 parents reported that "everyone," "many people," or the like had so commented, whereas there were no reports of similarly consensual allegations of maternal resemblance.

Although fathers' questionnaire responses were themselves biased toward paternal resemblance, many fathers betrayed skepticism or reserve about such allegations, both by their comments when present at the birth and in their replies to the comments of relatives. Maternal allegations of paternal resemblance were significantly related to birth order and naming practices, in ways predicted from the proposition that mothers endeavor to promote paternity confidence.

Key Words: Paternity; Resemblance; Confidence of paternity; Birth order; Naming practices

suggests that offspring should be the preferred vehicles of investment when they can be reliably identified. The rub, of course, is that they often cannot. Paternity is mistakable and men are therefore much concerned with its accurate assessment. There are at least two obvious sources of information contributing to a putative father's confidence of paternity: his confidence of the mother's sexual fidelity (Dickemann, n.d., 1981; Daly, Wilson, and Weghorst, 1982), and his assessment of the phenotypic similarity of the child to himself and his blood relatives (Alexander, 1974).

If assessments of phenotypic resemblance were veridical and disinterested, we would expect equal emphases upon maternal and paternal similarities. But since maternity is not at issue, we instead expect all interested parties to attend more to paternal resemblance.

Furthermore, since it is in the mother's interest to promote confidence of paternity, she should be especially motivated to argue paternal similarity (Kurland, 1979). Fathers, on the other hand, may be expected to be more cautious and skeptical, although they too are likely to be delighted by clear paternity indicators.

This article presents the results of two studies testing a series of hypotheses derived from the above considerations. The first study analyzes unsolicited remarks immediately after birth, while the second employs a questionnaire.

INTRODUCTION

In all human societies, men contribute significantly to child-rearing, whether directly or through investment in reproductive women. Male investment is usually directed to the man's putative offspring rather than to collateral kin, and indeed kinship theory (Hamilton, 1964)

STUDY 1. SPONTANEOUS UTTERANCES AT BIRTH

In an interview study of pregnant women, Leifer (1977) reported that "in their fantasies, most women imagined the newborn as looking like their husband." Evidently the pregnant woman's

Received August 31, 1981; revised January 27, 1982.
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motivation to promote paternity confidence is already being felt, but it is not until birth that overt phenotypic evidence of paternity suddenly becomes available. We predicted that there would be almost immediate—and perhaps biased—expressions of interest in this evidence.

Macfarlane (1977) published four transcripts of maternal speech at birth. Three of the four mothers remarked upon the baby's appearance, all three asserting that it looked like the father. We decided to look at a larger sample.

The sample consisted of 111 American births recorded on videotapes; 108 births took place at the University of Colorado medical center in Denver in 1971-72. The other three videotapes, two hospital and one home birth, were recorded by Dr. B. Jordan of Michigan State University. Fathers were present at 39 of the 108 Colorado births and at all 3 Michigan births. Demographic information was recorded from hospital records only after the tapes had been viewed and scored. Colorado mothers were young: age range 14-37, median age 20. At least seven were living with their own parents and many were not cohabiting with the child's father (37% of 67 for whom this information was obtained from hospital records). Two were known to be living with new boyfriends who were not the babies' fathers. Eight mothers had histories of diagnosed mental illness. One woman had previously suffered a skull fracture inflicted by her husband. Approximately half the mothers were primiparas.

The videotapes varied in duration from about 5 postpartum minutes to, about 45 with a median duration of 15. Utterances by the mothers and others attending were recorded verbatim. Intellegible remarks about the baby's appearance were recorded for 68 of the 111 tapes. (This is a minimum estimate of the prevalence of such remarks, for sound quality was sometimes poor so that much speech could not be understood, and at least 17 mothers were tranquilized with valium.) The transcribed remarks were categorized as "positive allegations of resemblance," "ambiguous messages," "explicit denials of resemblance," and "other comments on baby's features," and the person to whom the baby was compared was noted. This scoring was performed by an undergraduate, unaware of the hypotheses of the study, using the 111 written transcripts.

Four hypotheses were tested from these data:

1. Paternal resemblance will be remarked more than maternal resemblance.

2. Mothers will allege paternal resemblance more than fathers.

3. Fathers will betray reserve or skepticism when others allege paternal resemblance.

4. Mothers will allege paternal resemblance more in the father's presence than in his absence.

Hypothesis 4 derives from considering maternal allegations of paternal resemblance to be ploys whose aim is the promotion of confidence of paternity. It is, however, a weak prediction, since an unconscious, generalized maternal inclination to perceive paternal resemblance might serve this function and yet be manifest regardless of paternal presence.

Results

Forty of the 68 transcripts containing comments about the baby's appearance included specific allegations (33 cases) or denials (11 cases) of physical resemblance. These allegations are summarized in Table 1.

Hypothesis 1. Paternal resemblance was indeed remarked more often than maternal resemblance. The difference in number of speakers alleging "mother" vs. "father" is significant in the case of mothers' remarks (Table 1: 16 vs. 4, directional $p < 0.01$ by sign test), and approaches significance in the overall totals (Table 1: 17 vs. 9, directional $p = 0.09$). Differential emphasis was also evident in the frequency of reiterations. All nine claims of maternal resemblance were contained in single utterances; the only minor repetition was by one mother who said, "She's got my nose. I had the same nose when I was born." By contrast, six mothers reiterated or embellished upon claims of paternal resemblance. Thus, one mother told her husband "It looks like you" three times. Another turned from talking to the baby on four separate occasions to say "feels like you just like daddy," "he looks like you, got a head of hair like yours," and "he looks like you, honestly he does."

Hypothesis 2. Mothers were entirely responsible for the bias toward allegation of paternal resemblance (Table 1). That mothers and fathers reacted differently is demonstrated by a 2 x 2 comparison of "mother" and "father" allegations of resemblance, uttered by mothers vs. fa-

Table 1. Allegations of Resemblance in Spontaneous Comments Immediately After Birth^a

	Person to Whom Baby Compare				
	Mother	Father	Father's Relative	Older Sibling	Unidentified Named Person
<i>Positive allegations of resemblance</i>					
MOTHER	4	16	1	3	4
Speaker: FATHER	4	1	1	0	0
MOTHER	1	0	0	0	0
<i>Ambiguous or Mixed Messages</i>					
Speaker: MOTHER	0	0	0	3	0
FATHER	0	2	0	1	0
<i>Explicit denials of resemblance</i>					
Speaker: MOTHER	3	2	0	4	0
FATHER	0	1	0	1	0

^a Table entries are the number of births for which each class of allegation was recorded.

thers (Table 1: 4-16 vs. 4-1; directional $p = 0.023$ by Fisher exact probability test).

Hypothesis 3. Several fathers indeed betrayed reserve or skepticism about alleged paternal similarities. One father (scored as "mixed message") offered a careful analysis:

The only part that looks like me are her lips.
The dark hair, features of the face, and ears all look like Connie (the mother).

Another example (scored as "denial") is this:

Mother (examining the baby): "I wonder what she's going to look like. Probably you."
Father: "No, not me. Like you."

Much of the repetition by mothers is evidently due to the fathers' failure to respond to initial sallies. For example (this father not scored as commenting):

Mother: "It looks like you."
Father: no evident response.
Mother (a little later): "He looks just like you."
Father: nod.
Mother (to hospital staff): "He's cute. Looks just like Bill."
Father (embarrassed?): "Don't say that."
Mother: "He does."

Fathers are sometimes able to joke about their interest in paternal similarity (this father also not scored as commenting):

Doctor (teasing by hesitating to announce the baby's sex): "What do you want?"
Father (who is very bald): "I don't care as long as it's bald." (Repeats).
But the assessment of paternity by phenotypic

similarity is in other cases no joking matter. One white mother, for example, was much exercised about the imminent baby's racial appearance. Her husband, whom she had wed during the pregnancy, was white, but a former boyfriend was black. Hospital admission papers recorded the husband's declaration that if the baby were black, he would have nothing to do with it. He vowed that he "would not raise another man's child."

Hypothesis 4. The hypothesis that mothers would allege paternal resemblance more in father's presence than in his absence was not confirmed: 9 of 12 mothers who made allegations of resemblance in the father's presence remarked resemblance to him (75%), compared to 7 of 15 in his absence (47%). This difference is not significant.

Even reiterated claims of paternal similarity are not necessarily restricted to the father-present situation:

Unwed mother: "He looks so much like his father ... He looks so much like his father it's sickening!"
Nurse: "Do you still see the father?"
Mother: "No, we broke up."

In another case, perception of paternal resemblance was associated with a desire for reconciliation:

Separated mother (noting baby's red hair): "She gets it from her father."
Same mother, later: "He was up about a week ago and talked about going back together again. I'm sure glad ... (inaudible) ... He thinks the world of his son, and I know he will of her."

Discussion

It seems clear that spontaneous comments about who newborn babies resemble are biased, and that mothers are especially inclined to remark paternal resemblance. These results raise several further questions which could best be tested by a questionnaire study.

STUDY 2. SOLICITED OPINIONS ON PERCEIVED RESEMBLANCE

Five hundred twenty-six questionnaires were sent to new parents on the basis of birth announcements in the Hamilton, Ontario, *Spectator*, the Toronto, Ontario, *Globe & Mail*, the *Toronto Star*, and the Charlottetown, Prince Edward Island, *Guardian* between February and May, 1981. The questionnaire was sent only when the birth announcement named both the mother and the father (a criterion that eliminated less than one percent of all birth announcements), and only when a mailing address for the advertising family could be found in the appropriate telephone directory.¹

The questionnaire was a chain of four post-cards, each of which was franked and addressed to the researchers, plus a fifth card requesting participation and asking the respondents to fill out the cards without consulting one another.

Two cards, one to be filled out by the mother and one by the father, asked the baby's sex, birth order, and age, whom the baby was named after and when the name was chosen, "Who do you think the baby is most similar to?," whether that person agreed that the baby resembled himself or herself, whether anyone else had commented on whom the baby resembled, and if so what they had said.

The other two cards, one to be filled out by a relative of the mother and one by a relative of the father, asked the respondent's relation to the baby's parent, "Who do you think the baby is most similar to?," "Have you mentioned to the parents who you think the baby is like? ... If so, what did you say? ... What did they

say?," and whether the respondent would have chosen a different name for the baby.

One hundred thirty-nine of the 526 families (26%) returned at least one of the cards. Total returns were 122 mothers, 111 fathers, 86 mothers' relatives, and 66 fathers' relatives cards. One mother's and two fathers' "relatives" were "sisters-in-law" rather than genealogical kin of the respective parents and were eliminated from subsequent analyses. Four fathers' relatives said the baby resembled individuals of indeterminate familial relationship, so that their responses had to be eliminated from most of the analyses.

Questionnaires were sent to the families of 259 boys and 267 girls. Returns by sex of infant are shown in Table 2. The median age of infants when the questionnaires were completed was 3 weeks; 95% were less than 2 months old and all were less than 6 months old.

The distribution of respondents is shown in Table 3. Ninety-five percent of the 86 "mothers' relatives" and 92% of the 65 specified "fathers' relatives" were parents or siblings (hence putative $r = 0.5$) of the new parents. Eighty-six percent of these close relatives were the new grandparents.

The responses permit further tests of Hypotheses 1-3 (Study 1 above) with a different sort of data and a different population. (Hypothesis 4 is not applicable to this study). Several further hypotheses were also formulated:

5. Mothers' relatives will allege paternal resemblance more than fathers' relatives. We make this prediction because the reproductive strategic interests of the mother's relatives are consonant with the mother's own: both should be motivated to promote paternity confidence and paternal investment. Similarly, father's relatives share the father's interest in accurate assessment of paternity.
6. Mothers' relatives will respond more than fathers' relatives. Because maternal kin are more certainly related to the infant than are the corresponding kin of the putative father, they are predicted to take a greater interest in the infant. Greater investment by maternal than paternal grandparents in North America has been demonstrated in a recent study by Smith (1981).
7. Mothers' relatives will favor paternal naming. There is evidence that the practice of

¹Newspaper birth announcements evidently constitute a minimally self-selected subpopulation of two-parent-family births. In Hamilton, for example, 688 total births occurred in the city's three maternity hospitals during February and March, 1981, of which 602 (88%) were announced in the *Spectator*, the city's only daily newspaper.

Table 2. Numbers of Cards Returned, and Returns as Percentages of Total Questionnaires Distributed

		Respondent			
		Mother	Father	Mother's Relative	Father's Relative
Infant's Sex	Female	69 (26%)	67 (25%)	47 (18%)	33 (12%)
	Male	53 (20%)	44 (17%)	39 (15%)	32 (12%)

naming children after relatives is effective in inspiring namesake investment and inheritance (Smith, 1977; Furstenberg and Tautie, 1980). The choice of a paternal name may thus be in part a ploy to enhance the father's identification with and investment in the child. Mothers and their relatives might therefore be expected to favor paternal names as much as or more than fathers and their relatives. The questionnaires asked parents the provenance of the child's name and asked relatives whether they would have preferred a different name.

- Paternal resemblance will be alleged more of first-borns than of later-borns. This hypothesis was suggested by a conversation with a retired obstetrical nurse (EHW). We mentioned that most people say babies look like the father, and the nurse replied, deadpan, "Well, you know, they say the first generally does." Pondering this bit of lore, we thought of the following rationale for a birth-order effect. Maternal uncertainty about future paternal investment may be maximal with a first child. A stable family life with ongoing investment in older children should be predictive of a continuing male contribution. (Certainly marriages with children are more stable than those without; see, e.g., Rasmussen, 1981.) A modicum of pa-

ternity doubt may therefore be most hazardous, in terms of risk of paternal abandonment, in the case of a first child.

- Children named after the father will be more often alleged to resemble him, even though the name be chosen prenatally. This prediction follows from considering both paternal naming and the perception of paternal resemblance to be tactics for promoting paternity confidence. Variation between mothers in the strength of felt needs to promote that confidence should influence naming and perception in parallel.
- The effects predicted in hypotheses 8 and 9 should be more pronounced in mothers than in fathers, and in mothers' relatives than in fathers' relatives, because hypotheses 8 and 9 both follow from consideration of the reproductive strategic interests of mothers rather than fathers. Of course, insofar as maternal efforts to influence paternal perception are successful, fathers might manifest similar effects of birth order and naming practice. However, fathers should be somewhat resistant to such manipulation.

Table 3. Which Relatives of the New Parents Returned the Questionnaire?

	Mother's Relative	Father's Relative
Mother	68	37
Father	6	7
Both Parents	1	3
Brother	0	6
Sister	7	7
Aunt	1	0
Grandmother	1	1
Niece	0	1
Cousin	0	1
Great great Aunt	1	0
"Sister-in-law"	1	2
Ambiguous	0	1

Results

Hypothesis 1. Emphasis upon paternal resemblance was even more dramatic in the questionnaire responses (Table 4) than in the video-tape study. The difference in "mother" vs. "father" responses is significant ($p < 0.02$ by sign test) for each of the four categories of respondents. The emphasis on paternal resemblance is stronger with sons, but it is by no means confined to them (Table 5).

Paternal emphasis is also evident in the remarks that parents reported in response to the question, "Has anyone else commented on who your baby resembles?" (Table 6). Most of these remarks were by relatives, but nonrelatives showed the same effect: "friends" volunteered 12 father vs. 5 mother allegations ($p = 0.07$) according to mothers, and 10 father vs. 1 mother

Table 4. "Who Do You Think the Baby is Most Similar to?"^a

	Person Whom Baby Alleged to Resemble						"No-one", "Any baby", "Self", etc.
	Mother	Father	Other Maternal Relative	Other Paternal Relative	Both Parents	Older Sibling	
Respondent							
Mother	16	69	10	5	2	12	8
Father	17	58	6	7	3	9	11
Mother's Relative	22	42	4	3	6	5	3
Father's Relative	11	27	7	7	2	4	2

^a Questionnaire respondents of all four categories stress paternal resemblance.

($p = 0.01$) according to fathers. Perhaps most interesting are those observations attributed to collectives: "everyone," "many people," "friends and relatives," and the like. These included 25 father allegations (14 on mothers' cards, 11 on fathers'), one biparental allegation, and no mother allegations.

Hypothesis 2. The questionnaire results did not replicate the previous difference in allegations by mothers vs. fathers. Altogether 71 of 122 responding mothers (57%) alleged paternal resemblance (including those who said "both parents") compared to 61 of 111 responding fathers (55%), a very small difference in the predicted direction.

Hypothesis 3. The parents' questionnaire responses indicate little paternal skepticism about alleged resemblance. Of 71 mothers who alleged that the baby most resembled the father, 58 (82%) reported that he agreed that the baby was like him, while only 12 (17%) reported disagreement or reserve. The mothers were evidently quite accurate: we received the corresponding fathers' cards for 50 of the 58, and in 45 (90%), the father indeed cited himself as the person to whom the baby was most similar. (Conversely, we received all 12 fathers' cards where mothers reported that he disagreed, and only one cited

himself as the person to whom the baby was most similar.)

There were, however, clearer signs of paternal skepticism in the relatives' cards. Seventy-two responding relatives claimed to have expressed an opinion of paternal resemblance to the parents. In 22 cases (31%), the mother was said to have agreed while the father had not, expressly disagreeing in 11 and responding non-committally ("you think so?," "oh," etc.) in the other 11. Only twice did father agree with an allegation of paternal resemblance while mother dissented. By way of comparison, 38 relatives claimed to have communicated an opinion of maternal resemblance, and in only two cases (5%) did the mother dissent while the father agreed. This difference (22/72 fathers alleged to resemble the infant resisting that judgment alone vs. 2/38 mothers) is significant ($\chi^2 = 7.93, p < 0.01$), and may be interpreted as indicative of paternal skepticism.

Hypothesis 5. The prediction that mothers' relatives would allege paternal resemblance more than fathers' relatives was not confirmed. Forty-eight of 85 mothers' relatives (56%) alleged paternal resemblance compared to 29 of 64 fathers' relatives (45%). The difference is in the predicted direction, but is not significant ($\chi^2 = 1.42$, directional $p = 0.12$). Forty-five of 75 cards re-

Table 5. Perceived Resemblance by Sex of Infant¹

	Alleged Resemblance:	Daughters	Sons
		"Father" vs. "Mother"	"Father" vs. "Mother"
Respondent:	Mother	36-11 ²	33-5 ²
	Father	33-13 ²	25-4 ²
	Mother's Relative	20-18	22-4 ²
	Father's Relative	11-10	16-1 ²

¹ Even daughters are more often alleged to resemble fathers, though not to the same extent as sons.

² Denotes $p < 0.001$ by sign test.

Table 6. Other People's Opinion (Friends, Relatives, etc.) as Expressed to and Reported by Mothers and Fathers^a

	Person Whom Baby Said to Resemble						
	Mother	Father	Other maternal relative	Other paternal relative	Both Sides	Older sibling	"No-one" etc.
Mother's card	19	65	7	5	13	9	1
Father's card	14	59	3	5	5	9	2

^a These comments also stress paternal resemblance.

turned by maternal grandparents (60%) alleged paternal resemblance compared to 21 of 44 cards from paternal grandparents (48%).

Hypothesis 6. As predicted, more cards were returned by mothers' relatives than fathers' relatives (88 vs. 66, $p = 0.06$ by sign test). The effect was entirely due to grandmothers of the new babies: 68 maternal grandmothers vs. 37 paternal ($p = 0.002$).

The greater return rate by maternal grandmothers cannot be attributed to a closer geographic proximity to the new baby's family. The evidence on this point comes from birth announcements. In the *Spectator*, more than half of the announcements name the new grandparents as well as the parents. Many of these then indicate the grandparents' addresses. In a two-month sample (February/March 1981), 90 announcements placed the maternal and paternal grandparents in different towns, and in 49 of these cases (54%) it was the paternal grandparents who resided nearer to the baby's birthplace.

Hypothesis 7. The prediction that mother's relatives would favor paternal naming gains support from the data in Table 7. Mothers' relatives are more often satisfied with a paternal name than a non-paternal name (upper left 2 x 2 quadrant of Table 7: $\chi^2 = 2.66$, directional $p = 0.06$). They are evidently not influenced by maternal

names, nor are fathers' relatives influenced by either.

Hypothesis 8. The prediction that paternal resemblance would be alleged more of first-borns than later-borns was confirmed, as is shown in Table 8. The association between birth order and "father" allegations is significant in the responses of mothers ($\chi^2 = 5.05$, directional $p < 0.01$), and approaches significance in the responses of fathers ($\chi^2 = 2.17$, directional $p = 0.08$).

Hypothesis 9. The prediction was that children named prenatally after the father would be more often alleged to resemble him. This effect was obtained in the case of mothers' responses ($\chi^2 = 5.31$, directional $p = 0.01$), but was not significant for the other respondents (see Table 9).

Hypothesis 10. We predicted that birth order and name effects would be more pronounced in mothers than in fathers and in mothers' relatives than in fathers' relatives. This hypothesis is only weakly supported by the data in Tables 8 and 9: none of the four predicted differences are significant. However, the fact that all four are in the predicted direction (compare phi coefficients) is itself marginally significant ($p = 0.06$).

Table 7. Would Responding Relatives Have Chosen a Different Name for the Baby?

	Respondent					
	Mother's Relative			Father's Relative		
	Yes	No	Proportion yes	Yes	No	Proportion yes
If given a paternal name	4	23	0.15	7	15	0.32
If not	16	29	0.36	7	22	0.24
If given a maternal name	7	17	0.29	5	15	0.25
If not	13	35	0.27	9	22	0.29

Table 8. Perception of Paternal Resemblance in Relation to Birth Order

	First Borns			Later Borns			Phi ^a
	Alleged Paternal Similarity	Total	Proportion Alleged Paternal	Alleged Paternal Similarity	Total	Proportion Alleged Paternal	
Respondent:							
Mother	23	31	0.74	29	62	0.47	0.26
Father	18	28	0.64	32	60	0.53	0.14
Mother's Relative	14	21	0.67	20	40	0.50	0.16
Father's Relative	8	17	0.47	11	23	0.48	- 0.01

^a Phi is the fourfold point correlation, a measure of association in a 2 X 2 table.

DISCUSSION

There can be little question that expressed opinions about who newborn babies resemble are biased rather than veridical and dispassionate. The most dramatic bias is of course the general emphasis upon paternal resemblance, but effects of speaker, birth order, and naming practices are all testimony to a motivated perception. These biases may be most pronounced in the early postnatal period, at which time the urge to assess similarity is high and yet trustworthy phenotypic cues are presumably few.

The hypothesis that mothers would be more biased toward allegation of paternal resemblance than their husbands produced mixed results. The videotape results were supportive, but the larger data set provided by the questionnaires exhibited remarkably little mother-father difference. There was instead an overwhelming consensus of paternal similarity (Table 4). Self-selection of respondents is probably the most important reason: the decision to return the questionnaire is likely to be correlated with familial accord and an unequivocal enthusiasm about the baby. Certainly, fathers rankled by any serious suspicion of nonpaternity would be unlikely to find the

questionnaire an amusing diversion. The videotaped sample, by contrast, was not composed of volunteer respondents to questions about similarity, and furthermore contained many cases in which serious paternity doubts might have occurred. It would appear that such a sample more strongly manifests conflicts of reproductive self-interest between mothers and putative fathers. The videotaped sample also avoids the demand characteristics inherent in questionnaires, including tendencies to tell the researcher that which is socially desirable rather than the truth. It would therefore be of value to compare mothers' relatives vs. fathers' relatives (Hypothesis 5, which was not confirmed in Study 2) with a sample of unsolicited comments, but such data may be hard to come by.

It should be recalled that even in the questionnaire sample, paternal skepticism about alleged paternal similarities was indicated by responding relatives (Hypothesis 3), although the fathers themselves may have hesitated to acknowledge and record their own doubts. These relatives' responses also afford a hint of the proposed bias in self-selection of respondents: the father's own card was not returned in the case of 6 of the 22 relatives (28%) who reported that

Table 9. Perception of Paternal Resemblance in Relation to Use of a Paternal Name (prenatal choice of name only)^a

	Prenatal Choice of Paternal Name			Prenatal Choice of Nonparental Name			Phi
	Alleged Paternal Similarity	Total	Proportion Alleged Paternal	Alleged Paternal Similarity	Total	Proportion Alleged Paternal	
Respondent:							
Mother	23	31	0.74	29	62	0.47	0.26
Father	18	28	0.64	32	60	0.53	0.14
Mother's relative	14	21	0.67	20	40	0.50	0.16
Father's relative	8	17	0.47	11	23	0.48	- 0.01

^a Children named after the father are more often alleged to resemble him.

the father had dissented from a consensual claim of paternal similarity, compared to 6 of the 50 (12%) remaining relatives who had alleged paternal resemblance. Hence, fathers who are dubious about alleged paternal resemblance may indeed be less inclined to respond to the questionnaire.

Another factor worked against the prediction of differential response by maternal vs. paternal relatives (Hypothesis 5). Even if mothers' relatives were more motivated to perceive paternal resemblance, relatives on both sides have a larger pool of potential comparisons among their own kin. The most prevalent such influence is the grandmothers' memories of the new parents as infants. Four maternal grandmothers made that comparison explicit (e.g., "she looks just like Donna when she was born"), and others of the additional 20 maternal grandmothers who alleged a maternal resemblance may have been influenced by like memories. Similarly, two paternal grandmothers explicitly compared the new baby to its father as an infant, and others of the 16 additional paternal grandmothers who alleged a paternal resemblance may have been thinking along the same lines. These memories inspired same-family comparisons and hence worked against the prediction. We therefore doubt that we have achieved a good test of the hypothesis that mothers' relatives are more motivated to perceive paternal resemblance than fathers' relatives. Perhaps a different result would have been obtained had we asked which adult the baby resembled.

It would appear that there is a norm prescribing allegations of paternal resemblance. That, at least, is one interpretation of the fact that 25 parents reported that "everyone" said the baby looked like its father and none reported that "everyone" said the baby looked like its mother. Those who comment on paternal resemblance may often be well aware of speaking more out of politeness than conviction. It should be interesting to investigate whether strangers who pause to admire babies politely remark paternal similarities, whether such remarks remain prevalent when the accompanying "parents" are not the true ones, and what remarks are evoked when the ostensible father is clearly not the genitor.

We would expect normative allegations of paternal resemblance to be cross culturally prevalent. Hart (1965) reported a Filipino belief that

"If the infant resembles both parents, which is normally the case, the couple are thought to be happily married," while in another district, "If a wife loves her husband, the child will resemble him" (p. 31). These maxims are not offered as paternity tests; instead, it is claimed that marital discord alters the child's appearance in utero. Burbank (1980) describes Australian aboriginal beliefs about paternal resemblance that are quite explicitly used as evidence in cases of dubious paternity: Fathers are said to give children their faces and their feet, and it is of interest that the feet are distinctive to these people, who can identify many individuals by their footprints. Malinowski (1929) described a particularly interesting example of a norm of paternal resemblance among the Trobriand Islanders. These people are a favorite example of apparent ignorance of the male's role in procreation. They explicitly deny agnatic kinship. Nevertheless, it is an offense to remark similarity to uterine kin and polite to assert resemblance to the father, who is said to influence the child's appearance in utero by his association with the pregnant mother. Kurland (1979) has discussed the manipulative options available to the various actors operating within such an ideology of paternity ignorance.

Perception of paternal resemblance deserves study as a factor contributing to paternal bonding. Individualized bonding of mothers to their newborns is evidently a powerful emotional response that normally develops rapidly during early postpartum interactions (Klaus and Kennell, 1976). This is a sensible way for discriminative parental solicitude to be established in females, who have no natural selective history of maternity uncertainty, but bonding cannot be expected to proceed quite so readily in males, who are susceptible to cuckoldry, and who must therefore be sensitive to information germane to paternity assessment (Daly and Wilson, 1980). Phenotypic cues that alter paternity confidence may not become evident for years, and a certain reserve in paternal bonding is therefore to be expected.

If paternal affection is sensitive to perceived resemblance, differential treatment of offspring might follow. One sphere of interest is child abuse. We have shown that substitute parenting is associated with elevated abuse risk (Wilson, Daly, and Weghorst, 1980). With natural parents, one might predict elevated risk with per-

ceived dissimilarity to father, and in particular, that in those families in which one child is singled out for abuse, it will be the child least resembling the father (Daly and Wilson, 1981). It has also been reported that successful adoption is likelier where parents perceive the child to be similar to themselves (Jaffee and Fanshel, 1970). We predict that this factor should be more germane to adoptive fathers than to adoptive mothers. Discriminative inheritance may also follow lines of perceived similarity.

We and other authors have largely avoided the question of the extent to which "confidence" of paternity might be conscious. Like male sexual jealousy (Daly, Wilson, and Weghorst, 1982), which is sometimes linked to a conscious fear of adulterous conception and sometimes not, perceived similarity sometimes influences paternal solicitude by its calculated contribution to paternity belief but it may also operate automatically and irrationally, as in the postulated influence upon ease of adoption. Intermediate possibilities can be envisioned too: that the assessment is based on something like a rational calculation but is repressed or otherwise inaccessible to introspection. It is equally an open question to what extent maternal "ploys" to elevate paternity confidence might be conscious. In any event, the results of the present study are consistent with the proposition that confidence of paternity is manipulable and that other interested parties, especially the mother, endeavour to manipulate it by allegations of paternal resemblance.

We thank Christy Cutler, University of Colorado National Center for the Prevention and Treatment of Child Abuse and Neglect, and Brigitte Jordan, Michigan State University, for generous provision of videotapes of births. Doris Eggers categorized the videotape transcripts. Ingrid Pollock and Yuko Murainatsu helped with information on birth statistics. Financial support from the Harry Frank Guggenheim Foundation is gratefully acknowledged.

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