Appendix B Survey Questionnaire

LOUIS HARRIS AND ASSOCIATES , INC. 630 Fifth Avenue New York, NY 10111 FOR OFFICE USE ONLY: Questionnaire No.: <u>1-2-3-4-5</u>

Sample Point No. I 1 1 1 1 1

Study No. 863012 October 27, 1986 Final Version

Interviewer:

Telephone No. :

_____Date:____

Hello, I'm _____ from Louis Harris and Associates, the national public opinion research firm. We are conducting a national study for the United States Congress (about public attitudes toward science and technology).

1.~ How much interest do you have in scientific and technological matters -- are you very interested, somewhat interested, rather uninterested, or not interested at all?

Very interested (09(1
Somewhat interested	2
Rather uninterested	3
Not interested at all	4
Not sure	5
Refused/No answer	6

2. How concerned are you about government policy concerning science and technology -are you very concerned, somewhat concerned, not very concerned or not concerned at all?

Very concerned (1 <u>0(</u> -1
Somewhat concerned	2
Not very concerned	3
Not at all concerned	4
Not sure	5
Refused/No answer	6

3. If you had to rate your own basic understanding of science and technology, would you say it is very good, adequate or poor?

 Very good.
 -1

 Adequate
 -2

 Poor.
 -3

 Not sure.
 -4

 Refused/No answer
 -5

(IF 'VERY INTERESTED" in Q1 or 'VERY CONCERNED" IN Q2 _or "VERY GOOD" in Q3) QUOTA GROUP 1. ELSE = QUOTA GROUP 2.

Science Attentive....(12(-1 Science Inattentive -2

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4. Do you think that the current rate of growth of <u>science and technology</u> in this country is: much too fast, a little too fast, about right, a little too slow or much too slow?

Much too fast (1 <u>3(</u> -1
Little too fast
About right
Little too slow
Much too slow
Not sure
Refused/No answer

5* How much <u>benefit</u> do you expect you and your family to get from developments in science and technology in the next twenty years -- a lot of benefit, some benefit, little benefit, or no benefit.

A lot of benefit (14(1
Some benefit
Little benefit
No benefit4
Not sure
Refused/No answer

6. How much risk to you and your family do you think developments in science and technology will cause in the next twenty years -- a lot of risk, some risks little risk, or no risk.

A lot of risk (15	(-1
Some risk*	.02
Little risk	. <u></u> -3
No risk	4
Not sure	• • • • • • • • • • • • • • • • • • •
Refused/No answer	<u>.</u> -6

7. In your opinion, over the next 20 years will the benefits to society resulting from continued technological and scientific innovation outweigh the related risks to society, or not?

Yes, benefits will outweigh risks(<u>16(</u> -1
No, benefits will not outweigh risks <u></u> 2
It depends (vol.) .**.*.= .*.***=.**.** -3
Not sure <u>-</u> 4
Refused/No answer

8. Thinking about society as a whole, please tell me whether you tend to agree or disagree with each of the following statements. (READ EACH STATEMENT)
Defined (

					R	Refused/	
<u>R0</u>	TATE_	Agree	Disagree	Not sur	e No	o Answer	
a.	Unless technological development is restrained, the overall safety of our society will be jeopardized significantly						
	in the next 20 years	(17(1	2		- 3	4	
b.	The risks associated with advanced technology have been exaggerated	(<u>18(</u> -1	2		-3	4	
c.	Society has only perceived the tip of the Iceberg with regard to the risks associated with modern technology(1	.9(1	2		•3	4	
d.	Most of the risks of new technology that people worry about never really happen	(<u>20(</u> -1	2		•3	4	

9. Overall, do you think the degree of control that society has over science and technology should be increased, should be decreased, or should remain as it is now?

10. Now, let me ask you about some specific developments. From what you know or have heard, do you think (READ ITEM) will make the quality of life a lot better for people such as yourself, somewhat better, somewhat worse or a lot worse?

[ROTATE]	A Lot <u>Bette</u>		Somewhat <u>Better</u>	Somewhat <u>Worse</u>	A Lot Worse	No Effect (vol.)		fused/ answer
a. Genetic engineering	(22(-1	2	- 3	4	5	-6	-7
b. Robots and automation	(23(-1	-2	3	-4	5	-6	7
c. Nuclear power	(24(1	-2	3	- 4	5	-6	7
a. Solar energy	(25(-1	-2	-3	4	5	-6	7
e. Organ transplants	(26(1	-2	3	-4	5	6	7

11. Overall, what kind of effect do you think technological developments have on the environment -- very positive, somewhat positive, somewhat negative or very negative?

Very positive (27 (-1
Somewhat positive *	-2
Somewhat negative	-3
Very negative	-4
Both (vol.) 0 , .	-5
No Effect	-6
Not sure	-7
Refused/No answer	-8

12. Compared to ten years ago, do you think the overall quality of the environment in the United States is getting better, getting worse or is about the same?

Getting better (28(-	-1
Getting worse	-2
About the same	-3
Not sure	-4
Refused/No answer	-5

13. Have you heard or read much about (READ ITEM)

ROTATE	Q. 13a _Yes No	Very Somewhat Concerned Concerned	Q.13b Not T00 Not At All Concerned Concerned
a. Acid rain	(29(12	(34(2	34
b. Greenhouse effe	ct (30(1 -2	(35(12	34
c. Antibiotic resi bacteria		(36(12	34
d. Radioactive dis from nuclear po plants	wer	(37(12	34
e. Agricultural us genetically alt microbes		(38(2	34

13b. FOR EACH YES: How concerned are you at the present time about (READ ITEM) -- very concerned, somewhat concerned, not too concerned, or not at all concerned.

14. On the whole, do you think that the leaders and spokesperson of the environmental movement (READ EACH PAIR OF PHRASES)?

a.	Reflect public feeling	
	Are out of touch with the public	2
	Not sure	
b.	Are reasonable in their criticisms and demands	
	Are unreasonable in their criticisms and demands2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	2
	Not sure	; [

RANDOMLY ASSIGN ORDER OF Q15 SERIES AND Q18 SERIES

15a. Have you heard about biological techniques, such as cross-fertilizing plants or cross-breeding_ animals to produce hybrids?

Yes......(41(_____-1 (ASK Q15b) No......_______-2 Not sure......______-3 (SKIP TO Q16) Refused/No answer...._____-4 1

15b. Do you believe that creating hybrid plants and animals by cross-breeding is morally wrong, or not?

Morally wrong (42(-1
Not wrong	-2
Depends (Vol.)	-3
Not sure	-4
Refused/No answer	-5

15C. If the new plant or animal produced by cross-breeding can reproduce itself, how likely do you think this is to pose a danger to the environment -very likely, somewhat likely, somewhat unlikely or very unlikely?

Very likely (4	<u>43(</u> -1
Somewhat likely	<u></u> -2
Somewhat unlikely	<u></u> -3
Very unlikely	<u></u> -4
Not sure	5
Refused/No answer	<u></u> -6

16. I'd like you to tell me whether you think you understand the meaning of (READ ITEM)?

ROTATE	Yes	<u>No</u>	Not Sure	Refused/ No Answer
a. Gene	(44(2	3	4
b. Chromosome	(45(1	2	3	4
C. DNA	(46(1	2	3	4
d. Genetic engineering	(47(2	3	4
e. Monoclinal antibodies	(48(2	3	4
f. Cloning	(49(1	2	3	4
9. Human gene therapy	(50(1	2	3	4
h. In vitro fertilization	(51(1	2	3	4

17a. How much have you heard or read about genetic engineering -- a lot, a fair amount, relatively little or almost nothing?

17b. Based on what you know or have heard, what is meant by genetic engineering?

Totally Totally ROTATE Acceptable Unacceptable a. Human cells in a laboratory..(53-54_(-1_ -2 _-3 _ -4_ -5 _6 _ -7 _ -8 -9 _-0 b. Animal cells in a laboratory... ... (55-56_(-1_ -2 _-3 _ -4_ -5 _-6 _ -7 _ -8 _____0___0 _..._ (57-58<u>(</u>_1_2 -3 -4 -5_-6 -7 -8 ---9 ---0 cells.... c. plant d. (59-6<u>0</u> <u>(</u> -1 <u>_-2 _-3 _-4 -5 _-6 _-7 -8 _-9 _-0</u> Bacteria.....

acceptable, where would you rank genetic manipulation of (READ ITEM)?

17C. On a scale of 1 to 10 where 1 is totally unacceptable and 10 is totally

18a. Have you heard about using gene splicing OF recombinant DNA to produce hybrid plants, and animals by direct genetic manipulation?

18b. Do you believe that creating hybrid plants and animals through direct genetic manipulation of DNA is morally wrong, or not?

Morally wrong (62(1	(ASK Q18c)
Not wrong2	(SKIP TO Q18d)
Depends (Vol.) -3 Not sure. -4 Refused/No answer. -5	(ASK Q18c)

18c. Why is that?

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18d. If new plants or animals produced by direct genetic manipulation can reproduce, how likely do you think this is to pose a danger to the environment -- very likely, somewhat likely, somewhat unlikely or very unlikely?

Very likely	(<u>63(</u> -1
Somewhat likely	2
Somewhat unlikely	3
Very unlikely	4
Not sure	5
Refused/No answer	

18e. Some bacteria have been produced by direct genetic manipulation. If bacteria created by direct genetic manipulation can reproduce themselves, how likely do you think this is to pose a danger to the environment -- very likely, somewhat likely, somewhat unlikely, very unlikely?

Very likely (64(1
Somewhat likely	-2
Somewhat unlikely	3
Very unlikely	- 4
Not sure	-5
Refused/No answer	-6

19. If there was no direct risk to humans, would YOU strongly approve, somewhat approve, somewhat disapprove or strongly disapprove of genetic manipulation to produce (READ ITEM)?

-)TATE] Frost resistant crops	Strongly Somewh Approve Approv (65(1	<u>Disapprove</u>	Strongly Disapprove 4	Not Sure <u></u> 5
b.	Disease resistant crops	(66(1	23	4	5
c.	More productive farm animals	(67(-23	4	5
d.	Cures for human genetic diseas	es (6 <u>8(</u> -1	-23	4	5
e.	Larger game fish	(69(1	·23	4	5
f.	New vaccines	(70(1	23	4	5
g.	New treatments for cancer	(71(1	-23	4	5

20a. Have you heard about any potential dangers from genetically engineered products?

Yes	1 (ASK Q20b)
No	3 (SKIP TOQ21)

20b. What potential dangers have you heard of?

21. From what you have heard and read, how likely do you think it is that genetically engineered products will represent a <u>serious danger</u> to people or the environment -- very likely, somewhat likely, somewhat unlikely or very unlikely?

Very likely	(7 <u>3(</u> -1
Fairly likely	2
Fairly unlikely	3
Very unlikely	
Not sure	
Refused/No answer	6

22. From what you have heard or read, how likely do you think it is that the use of genetically engineered organisms in the environment will (READ ITEM) -- very likely, somewhat likely, somewhat unlikely, very unlikely?

[RC	TATE]	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Un- likely	Not Sure	Refusal/ <u>No Answer</u>
a.	Increase the rate of plant or animal extinction	(74(1	2	3	4	5	6
b.	Change rainfall patterns	(75(1	2	3	4	5	6
c.	Create herbicide resistant weeds	(76(1	2	3	4	5	6
d.	Create antibiotic resistant diseases	(77(2	3	4	5	6
e.	Endanger the food supply	(78(1	2	3	4	5	6
f.	Produce birth defects in humans	(79(1	2	3	4	5	6
g.	Mutate into a deadly disease	(80(1	2	3	4	5	6

23. Suppose that a *new* genetically engineered **organism had been** developed which would significantly increase farm production with no direct risk to humans. Would you approve the environmental use of that organism if the <u>risk</u> of losing some local species of plants or fish was (READ ITEM)?

AFT <u>Ris</u> a.	TER FIRST APPROVE IN B-F, SKIP TO G] <u>k</u> Unknown	<u>Approve</u> (08(1	Not Approve2	Not sure3	Refused/ No answer
b.	1 in 100	(09(1	2	3	4
c.	1 in 1,000	(10(1	2	3	4
d.	1 in 10,000	(11(1	2	3	4
e.	1 in 100,000	(12(1	2	3	4
f.	1 in 1,000,000	(13(1	2	3	4
9*	Unknown, but very remote	(14(1	2	3	4

24. If there was no direct risk to humans and only very remote risks to the environment, would you approve or disapprove the environmental use of genetically engineered organisms designed to produce (READ ITEM)?

				Re	efused/
RO	TATE	Approve	Disapprove Not	sure No	answer
a.	Frost resistant crops	(15(1	2	3	4
b.	More effective pesticides	(16(1	2	3	4
c.	Bacteria to clean up oil spills	(17(2	3	<u>, </u> -4
d.	Disease resistant crops	(18(2	3	4
e.	Larger game fish	(19(1	2	3	4

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RANDOMLY ASSIGN Q.25 - 32 to follow Q.41 in half of cases I

25. Some people believe that genetic alteration of human cells to treat disease is simply another form of medical treatment. Other people believe that changing the genetic makeup of human cells is morally wrong, regardless of the purpose. On balance, do you feel that changing the genetic makeup of human cells is morally wrong, or not?

Morally wrong. (21(1
Not wrong	2
Not sure	3
Refused/No answer.	-4

26. How do you feel about scientists changing the makeup of human cells to (READ ITEM) • Would you strongly approve, somewhat approve, somewhat disapprove or strongly disapprove?

RO	TATE	Strongly Approve	Somewhat Approve	Somewhat Disapprove	Strongly Disapprove		fused/ Answer
a.	Cure a usually fatal genetic disease	(22(1	2	3	4	5	б
b.	Reduce the risk of developing a fatal disease later in life	(23(1	2	3	4	5	6
c.	Stop children from inheriting a usually fatal genetic disease	(24(1	2	3	4	5	6
d.	Stop children from inheriting a non-fatal birth defect	(25(1	2	3	4	5	6
e.	Improve the physical characteristics that children would inherit	(26(1	2	3	4	5	6
f.	Improve the intelligence level that children would inherit	(27(1	2	3	4	5	6

27. Suppose someone had a genetic defect that would cause usually fatal diseases in them and would likely be inherited by their children. Do you think that doctors should be allowed to correct only the gene affecting the disease in the patient, only the gene that would carry the disease to future generations, both genes or neither gene?

Only affecting the patient (28(-1
Only affecting the offspring2
Both .********
Neither
Refused/No answer

28a. If there were genetic tests that would tell a person whether they or their children would be likely to have serious or fatal genetic diseases, would you approve or disapprove of making those tests available through a physician?

Approve (29(-1
Disapprove	-2
Not sure	-3
Refused/No answer	-4

28b. If genetic tests become available that would indicate whether or not a person was likely to develop a fatal disease later in life, would you personally take such a test or not?

29. If genetic tests become available that would indicate whether or not it was likely that your children would inherit a fatal genetic disease, would you personally take such a test before having children or not?

Would take test (31(-1
Would not take test	-2
Not sure	-3
Refused/No answer	-4

30. If tests showed that you were likely to get a serious or fatal genetic disease later in life, how willing would you be to undergo therapy to have those genes corrected -- very willing, somewhat willing, somewhat unwilling, very unwilling?

Very willing.... (32(-1 Somewhat willing...-2 Somewhat unwilling..-3 Very unwilling-4 Not sure.....-5 Refused/No answer...-6

31. If you had a child with a usually fatal genetic disease, how willing would you be to have the child undergo therapy to have those genes corrected -- very Willing~ somewhat willing, somewhat unwilling, very unwilling?

Very willing.... (33(-1 Somewhat willing... -2 Somewhat unwilling... -3 Very unwilling -4 Not sure. -5 Refused/No answer... _ -6 32. Some genetic diseases can be detected in the fetus during the early stages of pregnancy. Would you want such a test during (your/your spouse's) pregnancy or not?

Want a test (34(-1
Not want	2
Not sure	3
Refused/No answer	4

I will now read you a few statements. For each, please tell me whether you agree 33. (READ EACH ITEM) strongly, agree somewhat, disagree somewhat or disagree strongly. Dis-Agree agree Agree Some-Some- Disagree Not what <u>Strongly</u> sure [ROTATE] Strongly what a. The potential danger from genetically altered cells and microbes is so great _-2 __-5 that strict regulations are necessary..... (35(-1 -3 -4 b. The risks of genetic engineering have .-2 __-5 _____- 3 -4 c. It would be better if we did not know _-2 how to genetically alter cells at all..... (37(-1 ____-3 ____-4 ____-5 d. The unjustified fears of genetic engineering have seriously impeded the development -3 -4 _-5 _-2 ____-3 ____-4 ____ e. We have no business meddling with nature... (39(-1 _-2 -5

34. Do you think that research into genetic engineering should be continued or should be stopped?

Continued	(4 <u>0(</u> -1	
Stopped		
Not sure		
Refused/No	answer4	

35. Do you believe that government funding for biologic research should be increased substantially, increased somewhat remain about the same, decreased somewhat, or decreased substantially?

Increased substantially (41 (-1
Increased somewhat
Remain the same
Decreased somewhat
Decreased substantially
Not sure
Refused/No answer

36. Do you think that environmental applications of genetically altered organisms to increase agricultural productivity or clean up environmental pollutants should be permitted on a small scale, experimental basis, or not?

Yes (4 <u>2(</u>	1
No	-2
Not sure	-3
Refused/no answer	-4

37. Do you think that commercial firms should be permitted to apply genetically altered organisms on a large scale basis, if the risks of environmental danger are judged to be very small, or not?

Yes	-1
No	-2
Not sure	- 3
Refused/No answer	- 4

38. Who should be responsible for deciding whether or not commercial firms should be permitted to apply genetically altered organisms on a large scale basis -- the company that developed the product, an external scientific body, a government agency, an industrial trade association, or other group?

Company that developed product $(44(-1)$	
External scientific body	
Government agency	
Industrial trade association	
Other group (SPECIFY) :	
5	
Not sure	
Refused/no answer	

39. Suppose your community was selected as the site to test a genetically altered organism -- such as bacteria that protect strawberries from frost-- where there was no direct risk to humans and a very remote potential risk to the local environment. would you be strongly in favor, somewhat in favor, somewhat opposed, very opposed, or really not care if it was used in your community?

Strongly in favor $(45(-1)$
Somewhat in favor
Somewhat opposed
Very opposed
Really Not Care
Refused/no answer

40. How likely would you be to believe statements about the risk of such a product made by (READ ITEM)? Would you definitely believe them, be inclined to believe them, be inclined not to believe them, or definitely not believe them?

[RC	DTATE]	Definitely Believe	Inclined to Believe	Inclined not to Believe	Definitely Not Believe	Not Sure
a.	Federal agencies	(46(1	2	3	4	5
b.	University scientists	(47(1	2	3	4	5
c.	Environmental groups	(48(1	2	3	4	5
d.	Public health officials	(49(1	2	3	4	5
e.	News media	(50(1	2	3	4	5
f.	Company making the produ	ct (5 <u>1(</u> -1	2	3	4	5
g .	Local officials	(52(1	2	3	4	5
h.	Public interest groups	(53(1	2	3	4	5

41. Suppose a federal agency reported that the use of a genetically altered organism did not pose a significant risk to your community but a national environmental group said it did pose a significant risk. Would you tend to believe the federal agency or the national environmental group?

Agency	(<u>54(</u> -1
Environmental grou	p2
Depends (vol.)	3
Not sure	. <u></u> -4
Refused/no answer.	5

<u>I ASK EVERYONE I</u> F1. Now, I'd like to ask you a series of questions for statistical purposes. How old are you?

<u>1 1 1 1</u> years of age (55-56)

Refused/no answer _____-99 Not sure/don't know.. _____-Y

F2. What is the last year or grade of school you completed?

No formal schooling (<u>57(</u> -1
First through 7th grade	-2
8th grade	. <u></u> -3
Some high school	- 4
High school graduate	
Some college	
Four-year college graduate	-7
Post graduate	
Not sure/refused	

F3. Are you presently employed full time, part time, in the military, unemployed, retired and not working, a student, a homemaker, or are you disabled or too ill too work? MULTIPLE RECORD

Employed full time (58(-1
Employed part time
In the military $\frac{.}{.}$ -3
Unemployed
Retired
Student
Homemaker
Disabled/too ill to work8
Other (Vol.)
Not sure/refused(59(-1

F4. Including yourself, how many people live in this household?

<u>| | |</u>persons in household (60-61)

Not sure/refused..... ((____-99

F5. Does anyone in your household have a science or technology related job?

Yes......(62(___-1 No.....____-2 Not sure/refused..___3

F6. How often do you (READ EACH ITEM) -- daily, weekly, monthly, occasionally, hardly ever, or never?

Daily	Weekly	<u>Monthly</u>	Occa- sionally	-	Never	Not sure/ Refused
a. Read books or maga- zines on science and technology (63 (-1	(_ -2	(3	((—-5	(6	(7
<pre>b. Read the science section of a news- paper(64(-1</pre>	(2	(3	(4	(5	(6	-7
c. Discuss issues related to science with someone else. (65(-1	-2	(3	(-4	(5	(6	(7

F7. Are you active in any (READ ITEM)?

		Yes	No	Not Sure	Refused/ No answer
a.	Environmental groups or organizations	(66(1	2	3	4
b.	Scientific groups Of organizations	(67(1	2	3	4
c.	Consumer groups or organizations	(68(1	2	3	4

F8. During the past four years, that is, since this time In 1982, have you (READ EACH ITEM) , or not?

		Have Done	Have Not Done	Not sure	No Answer/ Refused
a.	Written a letter to your Congressman, U.S. Senator, Or an elected official of your local government	(69(2	3	4
b.	Contributed to a political campaign	(70(1	2	3	4
c.	Campaigned or worked actively for the election of a candidate for Congress, for the U.S. Senate, or for President	(71 <u>(</u> -1	2	3	4
d.	Voted on a local school bond issue or referendum	(72(1	2	3	4
e.	Voted in a Congressional election	(73(1	2	3	4

F9. Regardless of how you may vote, what do you usually consider yourself -- a Republican, a Democrat, an independent, or what?

F10. How would you describe your own personal political philosophy -- conservative, middle-of-the-road, or liberal?

F11. How important is religion in your daily life? Is it very important, somewhat important, not too important or not important at all?

Very important (76(1
Somewhat important2
Not too important
Not important at all4
Not sure/refused

F12. Which of the following income categories best described your total 1985 household income? Was it (READ EACH ITEM)?

F13. Do you consider yourself white, black, oriental, or what?

F14. Are you of Hispanic origin or descent, or not?

F15. Has anyone in your immediate family ever (READ ITEM)?

		QF1	5	QF16			
		Yes	No	Respondent	<u>S</u> pouse	Child Other	
a.	Had a potentially fatal genetic disease	(80(2	(12(1	2	34	
b.	Been a carrier of a potentially fatal genetic disease	7 (08(1	2	(13(1	2	34	
c.	Had a genetic proclivity to serious illnesses	(09(1	2	(14(1	2	34	
d.	Had any other inherited health condition	(10(1	2	(15(1	2	34	
e.	Had any other birth defect	(11(1	2	(16(1	2	34	

F16. IF YES TO F15 Was that you, a spouse, one of your children or someone else? RECORD ABOVE

RECORD SEX [DO NOT ASK]:

Male.. (1<u>7(</u>-1 Female... ___-2

This completes the interview. Thank you for your help: