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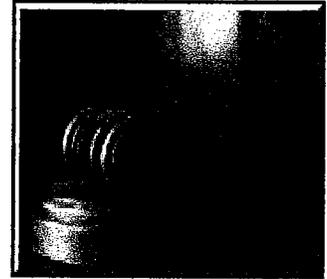
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CONDENSED

IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
IN AND FOR THE COUNTY OF CHELAN

Timothy Borders, et al.,)
)
 Petitioners,)
 v.)
)
 King County and Dean Logan, its)
 Director of Records, Elections)
 and Licensing Services, et al.,)
)
 Respondents,)
 v.)
)
 Washington State Democratic)
 Central Committee,)
)
 Intervenor-Respondent,)
 v.)
)
 Libertarian Party of Washington)
 State, et al.,)
)
 Intervenor-Respondents.)
)

No.
05-2-00027-3



DEPOSITION OF JONATHAN N. KATZ, taken on behalf of the Respondents, at 1620 26th Street, Suite 600, Santa Monica, California, commencing at 9:16 a.m., on Thursday, May 5, 2005, pursuant to Notice, before CHRISTINA KIM-CAMPOS, CSR No. 12598, a Certified Shorthand Reporter, in and for the County of Los Angeles, State of California.

Page 1

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Page 3

1 I N D E X
 2
 3 WITNESS EXAMINATION PAGE
 4 Jonathan N. Katz By Mr. Burman 6, 208
 5 Afternoon Session 165
 6 By Mr. Ahearne 175, 216
 7
 8 E X H I B I T S
 9 RESPONDENTS' PAGE
 10 1 - Document entitled, "Report on 2004
 Washington gubernatorial Election,"
 11 by Jonathan N. Katz, dated 4/4/2005 219
 12 2 - Copy of e-mail, dated 4/28/2005,
 and attached supplemental report 219
 13
 14 3 - Document entitled, "Supplemental
 Report on 2004 Washington
 gubernatorial Election," dated
 15 April 28, 2005, by Jonathan Katz 219
 16 4 - Document entitled, "Log of export
 of SRset" 219
 17
 18 5 - Document entitled, "Information
 About Jonathan N. Katz" 219
 19 6 - Document entitled "Working Papers,"
 last updated September 13, 2004 219
 20
 21 7 - Copies of e-mails with a cover
 note to Mr. Korrell from Jonathan
 Katz 219
 22
 23
 24
 25

Page 2

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 18
 19
 20
 21
 22
 23
 24
 25

Page 4

1 I N D E X
 2 (Continued)
 3
 4 E X H I B I T S
 5 RESPONDENTS' PAGE
 6 8 - Document entitled, "Report on Georgia
 and Legislative Redistricting," by
 7 Jonathan Katz, dated January 14, 2002 219
 8 9 - Document entitled, "Second
 Supplemental Report on 2004 Washington
 gubernatorial Election," by Jonathan
 9 Katz, dated May 4, 2005 219
 10
 11 10 - Copies of various e-mails 219
 12
 13 11 - Copy of document entitled, "Election
 Law" 219
 14
 15 12 - Copy of e-mail from Michael McDonald,
 sent May 2, 2005 219
 16
 17 13 - Copy of cover and table of contents
 from Gary King's "A Solution to the
 Ecological Inference Problem" 101
 18
 19 14 - Copy of cover page of "Introduction to
 Probability Theory and Statistical
 Inference," by Harold J. Larson 102
 20
 21 15 - Copy of cover page and table of
 contents from "Ecological Inference,"
 edited by Gary King, Ori Rosen, and
 Martin A. Tanner 103
 22
 23 16 - Copy of document entitled, "A
 Bayesian Approach to Detecting
 Electoral Manipulation," by Micah
 Altman 104
 24
 25

1 (Pages 1 to 4)



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Court Reporting Trial Presentation Videoconferencing Videography

Page 5

1 INDEX
2 (Continued)
3
4 EXHIBITS
5 RESPONDENTS' PAGE
6 17 - Document entitled, "Issue Voting
and Ecological Inference," dated
7 September 14, 2000 166
8 18 - Document entitled, "Indecision Theory:
Quality of Information and Voting
9 Behavior," by Paolo Ghirardato and
Jonathan Katz 166
10
11 19 - Document entitled, "Correcting for
Survey Misreports using Auxiliary
Information," dated June 2000, by
12 Jonathan Katz 167
13 20 - Document entitled, "Ecological
Inference and the Ecological
14 Fallacy" 168
15
16 QUESTIONS INSTRUCTED NOT TO ANSWER
None.
17
18 INFORMATION REQUESTED
19 None.
20
21
22
23
24
25

Page 6

1 SANTA MONICA, CALIFORNIA; THURSDAY, MAY 5, 2005
2 9:16 A.M.
3
4 JONATHAN N. KATZ,
5 called as a witness by and on behalf of
6 the Respondents, being first duly sworn,
7 was examined and testified as follows:
8
9 EXAMINATION
10 BY MR. BURMAN:
11 Q. Could you state your name.
12 A. Jonathan Neil Katz.
13 Q. And your occupation?
14 A. Professor of political science, California
15 Institute of Technology.
16 Q. How would you define the specific area of
17 scientific expertise that you're bringing to bear on
18 this case?
19 A. Clarify. Do you want all my research, or
20 what comes to bear on this case only?
21 Q. Well, not all your research, but what you --
22 how you would define the area of science.
23 What is -- just what -- what did you apply
24 here?
25 A. Statistical analysis, election data.

Page 7

1 Q. Okay. Are there any narrower fields --
2 excuse me -- within that, that you believe are
3 relevant to this?
4 A. I don't quite understand your question. I
5 mean, that's pretty broad. I agree. There are
6 particular techniques and methods that are used
7 here.
8 It's just, I don't -- that I recall -- that
9 I recall -- these are basic statistics -- basic
10 statistics of elections.
11 Q. Okay. You mentioned techniques and methods.
12 What are the techniques and methods that you
13 used in this matter?
14 A. In this one it was very simple. It was use
15 of binomial and multinomial -- can you -- analysis
16 to figure out pulling out a group of -- a group from
17 a known set, a known population.
18 Q. What is the known population?
19 A. In this -- in this case, the known
20 population is the set of ballots that were cast in
21 the Washington gubernatorial election.
22 Q. The whole state?
23 A. Well, not the whole state. We, in fact,
24 draw from smaller -- we actually know more than
25 that. We know the population broken down into

Page 8

1 smaller units -- counties and precincts.
2 Q. And why did you apply this method that you
3 just described?
4 A. Again, a bit unclear, so let me -- I was
5 asked a -- a very specific question by counsel in
6 this case, which was -- counterfactual -- what would
7 happen where some set of, a particular a set of
8 invalid ballots were removed from their final caps.
9 Q. What do you mean by a counterfactual?
10 A. Well, we reserve one state of the world.
11 And a counterfactual has to propose -- some other
12 state is attained. So these states had not been
13 allowed to be cast in the first place, what would
14 have happened.
15 Q. And when you say "these votes," you mean the
16 identified voters that were provided to you by
17 Polidata?
18 A. That is correct.
19 Q. Okay. And I know that has changed over
20 time; correct?
21 A. Yeah, that has changed.
22 Q. And did you have any understanding of how
23 those were selected?
24 A. I know cursory -- I -- which they were
25 selected by, particularly felons and other

2 (Pages 5 to 8)



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Page 9

1 non-citizens who were claimed to not legally have
 2 voted under Washington law.
 3 **Q. Did Polidata select them; do you know?**
 4 A. I don't know if Polidata selected them.
 5 Polidata gave me the -- the -- a data set which
 6 included the counts of these by various geographic
 7 units.
 8 **Q. And you don't know where they got the**
 9 **information?**
 10 A. Not -- I have no first-hand knowledge where
 11 they got the information.
 12 **Q. Okay. Do you have any knowledge where they**
 13 **got them?**
 14 A. I understand they culled state records and
 15 the like. That's as far as I know.
 16 **Q. They, Polidata; or somebody else?**
 17 A. Again, I -- I don't know if Polidata did
 18 themselves or they contracted. I don't have
 19 first-hand knowledge of -- I --
 20 **Q. Okay.**
 21 A. I have no knowledge of --
 22 **Q. Okay. But you understood that Polidata was**
 23 **working for the -- for the Rossi petitioners in this**
 24 **case?**
 25 A. That is correct.

Page 10

1 **Q. Okay. And because the data changes over**
 2 **time, I'm going to -- just going to refer many of my**
 3 **questions to kind of a generic definition of that,**
 4 **which, if it's okay with you, I'll call it the Rossi**
 5 **selection.**
 6 A. I like -- I tend to be very specific, so
 7 I'll do that, but I'll correct you if there is -- I
 8 mean, I think there's -- leads to some ambiguity.
 9 **Q. That would be great and, in fact, I should**
 10 **say I -- I don't know what I'm talking about so --**
 11 **but you shouldn't fall into the trap of**
 12 **oversimplifying things for me. I want to be fair to**
 13 **you.**
 14 **So you need to assume really that -- 'cause**
 15 **part of the purpose of this deposition is for me to**
 16 **ask questions on behalf of other experts, and you to**
 17 **communicate to them what your explanations are.**
 18 **So don't oversimplify things for me. If I**
 19 **need a more simple explanation, then I'll say, "You**
 20 **know, time out. Try to give us a little statistic**
 21 **for dummies here and see if I can get it.**
 22 **Is that acceptable to you?**
 23 A. Not a problem.
 24 **Q. Okay. The other thing that will be helpful**
 25 **for me is that whenever you give an answer that**

Page 11

1 **includes in it an -- an assumption or a hypothesis,**
 2 **if you could be sure to state the assumption that**
 3 **that's based on and not -- not assume that I know**
 4 **what the assumption is because I often won't.**
 5 A. Again, I will do my best.
 6 **Q. Okay. And I assume it's been your**
 7 **experience that lay people sometimes oversimplify**
 8 **what they read in -- in the -- in your scientific**
 9 **area?**
 10 A. I think the -- the lay population is often
 11 confused by statistics.
 12 **Q. And -- and sometimes jump to conclusions**
 13 **that the statistics do not actually support within**
 14 **the scientific discipline?**
 15 A. If -- if we're talking in generalities,
 16 perhaps.
 17 **Q. Now, you mentioned this process that you**
 18 **used of selecting or of studying some examples out**
 19 **of this known data which is the pre- -- how the**
 20 **precincts voted.**
 21 **Am I close to describing it?**
 22 A. I -- I don't quite understand what -- what
 23 you mean by that, so if you could maybe clarify
 24 what --
 25 **Q. I've been -- I've been told to ask you**

Page 12

1 **whether it's similar to stratified sampling.**
 2 A. Stratified -- no, in a sense. Stratified
 3 sampling, we're interested in knowing about a
 4 population which we don't have any information
 5 about, and so what we're going to do -- but we're
 6 particularly interested in subgroups of that
 7 population -- say, African-Americans, Latinos, and
 8 Anglos.
 9 The problem is if we do a pure random
 10 sample, just call up, you know, 1,500 households in
 11 the United States, given the small fraction --
 12 relatively small fractions of Hispanics and -- and
 13 African-Americans in the national sample, there
 14 might not be very many in there.
 15 And so you might want to over-sample, take a
 16 stratified sample, take subsamples, and make
 17 inferences, both about the entire population and
 18 then about the sub- -- the subpopulations, say,
 19 African-Americans and -- and Anglos.
 20 Here, it's -- we're in a different world
 21 than most statistics. We actually know the
 22 population.
 23 **Q. Know the total voting population?**
 24 A. We know the population -- the population in
 25 this world is the -- is the ballots that were cast



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1 in -- in -- in the world. So we're not sampling to
2 find out information about this -- about the
3 population. There's no sampling -- there's no
4 notion which we're sampling here.

5 **Q. Do you know whether we actually know how
6 many illegal felons or other invalid voters voted in
7 the 2004 Washington gubernatorial election?**

8 A. No. We -- we know -- we have the current
9 S&I -- it's a question of fact for the court to
10 decide, are those relevant. There perhaps could be
11 others.

12 **Q. Okay. And you've not done any analysis of
13 whether this is a complete census of what I'll call
14 invalid voters, including, both felons and all those
15 other categories?**

16 A. No. My analysis is confined to asking,
17 given a set of -- of invalid voters, what would be
18 the likely outcome had they not been allowed to
19 vote.

20 **Q. Okay. And you don't know the probability of
21 inclusion of any given invalid voter in the -- in
22 the list you were given?**

23 A. That is correct. I don't know that.

24 **Q. Okay. You don't know whether the method
25 they used followed the, you know, the standards for**

1 **reached any -- any conclusions from the data,
2 wouldn't you?**

3 A. No. Again, this analysis -- I hope I made
4 clear in my reports -- is conditional on the set of,
5 on the set of data I was provided. I was asked a
6 very specific questions.

7 **Q. Okay.**

8 A. Given this set of invalid voters and the
9 other facts we know about the case -- about the
10 election, what would -- what is the counterfactual,
11 if they were not.

12 **Q. Okay.**

13 A. So I was not asked to verify the data,
14 although clearly, my conclusions depends on that, on
15 the data being correct.

16 **Q. Understood.**

17 **Okay. And just to make sure I have it
18 right, you can't state an opinion on the fact of
19 whether illegal or other invalid voters caused the
20 election of Governor Gregoire without knowing how
21 valid the research is; correct?**

22 A. Again, I think you're not being specific
23 enough for my taste.

24 **Q. That's fine.**

25 A. What my analysis says, if this were the only

1 **random samplings of your profession?**

2 A. Again, this isn't -- this isn't -- this is a
3 very different -- I think you're confusing again,
4 sampling.

5 So here, we're not sampling. We're actually
6 asking for an exhaustive census. So we're not
7 random sampling. So -- so that's not actually the
8 proper terminology.

9 **Q. Okay. You -- so the implicit assumption of
10 everything you did is that you had an exhaustive
11 census of invalid felons and other invalid votes;
12 correct?**

13 A. Again, I think that's a bit unclear. What I
14 would say my analysis was conditional on the data I
15 had.

16 **Q. Okay. Garbage in, garbage out?**

17 A. The analysis is consistent with the data I
18 had.

19 **Q. You don't like my lay person's version of
20 what I just said?**

21 A. I just like to be consistent.

22 **Q. Okay. You would agree that typically, in
23 the science in which you practice, it would be
24 expected that you would check whether it was either
25 a complete census or a random sample before you**

1 issue in the election and this is the correct -- and
2 in fact, the court agrees that this is a true and
3 correct set of invalid ballots -- my analysis is
4 consistent with most likely with Rossi -- most
5 likely Rossi having won the election, had they been
6 excluded.

7 **Q. Okay.**

8 A. So that's a very specific question.

9 **Q. Okay. And would you agree that unless
10 someone proves to the judge that the research that
11 was done to give you that data set satisfied
12 generally accepted standards of your science, no
13 valid conclusion can be reached?**

14 A. Well, again, I think it needs to be clear
15 the question -- this is a -- this is an odd
16 situation for most political scientists. Most
17 studies we have are not asking about an entire
18 population. What we're typically doing is, say, for
19 example, in a survey of national population, we take
20 a snapshot, and then they want to make an inference
21 out of a whole population.

22 Here we actually -- much more like the
23 census -- we're trying to actually do an
24 enumeration, but whether or not that enumeration was
25 done properly or not is a -- is a question of fact

4 (Pages 13 to 16)

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1 for the court.
 2 **Q. And my point is, your conclusion from the**
 3 **assumption that it was done accurately is only as**
 4 **valid as whether the research was done consistently**
 5 **with general -- generally accepted scientific**
 6 **principles?**

7 A. Again, I think you're putting too much
 8 weight, I think, on the procedure. What I care
 9 about is -- is about -- is the -- is the final set
 10 of ballots -- the -- of invalid ballots -- in fact,
 11 the correct set.

12 **Q. Well, in your science, isn't it true that**
 13 **for purposes of research methodology, the procedure**
 14 **that is used gives you some indication of whether**
 15 **the result are reliable?**

16 A. Again, I don't quite follow you.

17 **Q. That's pretty simple, isn't it?**

18 A. No. I actually don't quite understand your
 19 question. I -- I -- I don't mean to be
 20 confrontational. I just -- what I would say is one
 21 does care about the process by which it was drawn.
 22 But here what we care about is the final -- is the
 23 outcome -- what is the set of individuals.

24 Again, it's not a sampling endeavor. It's a
 25 com- -- it's an exhaustive search. Whether or not

1 **Q. And again, if -- if the ultimate question**
 2 **here is did invalid voters cause the election of**
 3 **Governor Gregoire in the 2004 Washington election,**
 4 **would you agree that you cannot state an opinion on**
 5 **that issue of factual causation without knowing**
 6 **whether, in fact, you have an exhaustive census of**
 7 **the invalid voters?**

8 A. Again, to reiterate what I said, what my
 9 analysis finds is, given this set of invalid votes,
 10 then had -- had they -- had that set been excluded,
 11 in all likelihood, Rossi would -- would likely have
 12 prevailed.

13 **Q. So --**

14 A. Whether or not some data set which shows
 15 something different, I have no information of those
 16 other data sets.

17 **Q. So -- so, in fact, it's unknowable, unless**
 18 **we know this is an exhaustive census of the invalid**
 19 **voters, it is unknowable whether or not invalid**
 20 **voters affected the outcome of the election?**

21 A. Again, I think it's a bit stronger than I
 22 would put it. Even if -- even if it were not a
 23 complete census, there are methods and statistics
 24 of -- methods and bounds which you could put -- what
 25 is this -- suppose you thought there was another

1 the exhaustive search was correct or not is, again,
 2 beyond my knowledge.

3 **Q. And you would agree that it is not**
 4 **exhaustive if it's limited to certain counties;**
 5 **correct?**

6 A. If that were true, that would -- yes, that
 7 would be correct.

8 **Q. Okay. And that would be fatal to any**
 9 **conclusions from the data?**

10 A. No, that is not true. It would depend --
 11 you'd ask how sensitive one's results are to
 12 excluded cases, depending on what information you
 13 had about said excluded cases.

14 **Q. Okay. But you weren't asked to do that;**
 15 **correct?**

16 A. No.

17 **Q. And you've not been given any insights into**
 18 **what might have been excluded; correct?**

19 A. That is correct.

20 **Q. Okay. And it's certainly possible, isn't**
 21 **it, that the search for invalid voters was done only**
 22 **in precincts in which Governor Gregoire won?**

23 A. That's beyond my knowledge.

24 **Q. Okay.**

25 A. I don't know.

1 faction out there. You could put bounds on whether
 2 or not you felt that would impact the results.

3 So -- so it's not as strong as you want --
 4 as you put it.

5 **Q. But under the generally accepted standards**
 6 **of your science, until you put those bounds or do**
 7 **something similar to that, unless you know that the**
 8 **data is a complete census, you cannot reach any**
 9 **valid conclusions, can you?**

10 A. No. Again, I think that's a bit strong. As
 11 I've said, my analysis is conditional on the data I
 12 had. If there was different data that might lead to
 13 different conclusions, if there's hypothetical data
 14 or potential data out there, we can also, in some
 15 circumstances, make claims as well.

16 So you're -- you're ruling out saying that
 17 there's no -- even if this were exhaustive, it's not
 18 quite correct.

19 **Q. But pretty close?**

20 A. No.

21 **Q. Okay.**

22 A. Suppose that I left out two people. I can
 23 ask -- suppose those two people voted for Rossi,
 24 then I could put -- that's why it depends crucially
 25 on -- on -- on information. So your statement is

5 (Pages 17 to 20)

<p style="text-align: right;">Page 21</p> <p>1 very strong.</p> <p>2 Q. Okay. You've been told that at least 400</p> <p>3 were left out, haven't you?</p> <p>4 A. That's what I've read in a Seattle Times</p> <p>5 report.</p> <p>6 Q. Okay. And did you do anything to check to</p> <p>7 see how that affected your outcome?</p> <p>8 A. Actually, I need more than just knowing that</p> <p>9 there were 400 felons. What I would need to know is</p> <p>10 whether those 400 invalid ballots -- I would</p> <p>11 actually need to know their geographical</p> <p>12 distribution, which I have not been provided.</p> <p>13 Q. Okay. And that was a -- as far as you know,</p> <p>14 decision made by Mr. Braden and Mr. Benson not to</p> <p>15 provide you with that?</p> <p>16 A. Again, we -- I think we're waiting to</p> <p>17 actually clear the list, so --</p> <p>18 Q. Oh.</p> <p>19 A. I don't have that data. All I have is the</p> <p>20 report.</p> <p>21 Q. Now, it would also be true, wouldn't it,</p> <p>22 that you cannot say as a matter of generally</p> <p>23 accepted science that the invalid voters, in fact,</p> <p>24 voted the same as their precinct?</p> <p>25 A. No. That's a -- that's a homogeneity</p>	<p style="text-align: right;">Page 23</p> <p>1 based on the Uggen & Manza article?</p> <p>2 A. What I'm saying is, as I -- like I put out</p> <p>3 in my report, as I stated, I think, pretty clearly</p> <p>4 in my report, that is one additional piece of</p> <p>5 confirming evidence.</p> <p>6 Q. That's the only other piece of evidence;</p> <p>7 correct?</p> <p>8 A. That's right. We have -- we have a large</p> <p>9 number of precinct votes, and we have their one</p> <p>10 study. That's the only one I'm aware of.</p> <p>11 Q. And you looked for others?</p> <p>12 A. I -- as best -- I did do a library search,</p> <p>13 as best I could. It wasn't exhaustive.</p> <p>14 Q. Okay. And the article that you're referring</p> <p>15 to says that any questions about the study should be</p> <p>16 directed to Professor Manza, doesn't it?</p> <p>17 A. Correct.</p> <p>18 Q. And did you contact Professor Manza?</p> <p>19 A. No. I didn't have any questions about their</p> <p>20 study.</p> <p>21 Q. Okay. Would it surprise you to know that</p> <p>22 Professor Manza thinks you cannot make any</p> <p>23 assumption what happened in Washington from his</p> <p>24 data?</p> <p>25 A. Since I haven't any interest -- since I do</p>
<p style="text-align: right;">Page 22</p> <p>1 assumption that we -- that this -- we make all</p> <p>2 sorts of homogeneity assumptions. That isn't what</p> <p>3 we've made in this case, in this analysis.</p> <p>4 Q. And have you tested that assumption in any</p> <p>5 way?</p> <p>6 A. Yes. My -- well, in fact, so my estimate,</p> <p>7 for example, for felons, which is the class of</p> <p>8 individuals -- the largest set of invalid ballots,</p> <p>9 we actually have some independent research on.</p> <p>10 So the -- I don't know the exact figure</p> <p>11 without looking it up, but -- but my estimate is</p> <p>12 probably 60 odd percent of them were estimated to</p> <p>13 have voted for now Governor Gregoire. And if you --</p> <p>14 taking the Uggen & Maz- -- Mazda --</p> <p>15 Q. Manza.</p> <p>16 A. -- Manza analysis there, their estimates for</p> <p>17 voting in other races -- they had more detailed data</p> <p>18 than I had -- put the probably voting for Democratic</p> <p>19 candidate at about 70 to 85 percent.</p> <p>20 So -- so in that instance -- and that's a</p> <p>21 conservative estimate, and it goes against the --</p> <p>22 the analysis. So that gives me some confidence in</p> <p>23 it, but I do not know.</p> <p>24 Q. Are you telling your peers in the profession</p> <p>25 that you can say your estimate is conservative,</p>	<p style="text-align: right;">Page 24</p> <p>1 not know the gentleman I have had no contact with</p> <p>2 him, and I don't have any personal knowledge of</p> <p>3 that --</p> <p>4 Q. Okay. It doesn't surprise you though that</p> <p>5 he would say that there's nothing in his study that</p> <p>6 would tell you that Washington voters -- Washington</p> <p>7 felon voters voted overwhelmingly for Governor</p> <p>8 Gregoire?</p> <p>9 A. It would actually surprise me, given his</p> <p>10 estimate. Of course, he is free to tell you what he</p> <p>11 likes. I don't know. I have no way of knowing</p> <p>12 what he thinks.</p> <p>13 Q. Okay. How closely did you look at his</p> <p>14 study?</p> <p>15 A. I've -- I've read it. I know -- and I</p> <p>16 know -- I know the data -- most of the data sources</p> <p>17 that he used.</p> <p>18 Q. Okay. Who were the women candidates that</p> <p>19 were supported by the ex-felons or felons in his</p> <p>20 study?</p> <p>21 A. There are, as far as I know, no women</p> <p>22 candidates, but there are -- might be some in the</p> <p>23 Senate races. I didn't look at all the exhaustive</p> <p>24 Senate races.</p> <p>25 Q. Okay. What were the African-American</p>

6 (Pages 21 to 24)

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Page 25

1 percentages of the states where this strong
 2 Democratic bias was shown as to felons?
 3 A. Again, I -- it was probably higher than
 4 Washington, given what cursory knowledge I know of
 5 the demographics of Washington.
 6 **Q. Two or three times as high?**
 7 A. I -- I don't know -- I don't feel
 8 comfortable putting a magnitude on it.
 9 **Q. Okay. You didn't do any adjustment for**
 10 **that?**
 11 A. No. I -- I -- as a benchmark, my estimate
 12 was significantly lower than theirs, so --
 13 **Q. Okay. Did you look at the table they**
 14 **provided that discussed which of the various**
 15 **socioeconomic factors were most correlated with --**
 16 **with voting demographics?**
 17 A. Again, personally, I don't have -- I don't
 18 have an exact memory of it.
 19 **Q. Okay. So let me go back to the question.**
 20 **Under the generally accepted standards of**
 21 **your science, can you say that you can tell how an**
 22 **individual voter voted, based upon the surrounding**
 23 **precinct and the Uggen & Manza study?**
 24 A. We can make an estimate of that.
 25 **Q. Okay.**

Page 26

1 A. There's uncertainty. I don't know for
 2 certain how anyone voted. All I can do is the
 3 data -- I can say what's the data consistent with.
 4 **Q. Okay. And -- and did you -- did you measure**
 5 **the amount of uncertainty in that assumption?**
 6 A. Again, I don't follow you -- what you mean
 7 by "measuring the uncertainty." Measuring
 8 uncertainties about assumptions -- when there is
 9 uncertainty about one's estimates.
 10 **Q. Okay. So for assumptions and hypotheses,**
 11 **you test them in other ways?**
 12 A. For those that are testable.
 13 **Q. Okay. And was this one testable?**
 14 A. No. We don't have any further data in -- in
 15 Washington, so there's -- homogeneity assumption, I
 16 think or interchangeability assumption is -- is a
 17 part of my analysis. So there's -- without other
 18 data, I can't verify or not.
 19 **Q. Okay. So under generally accepted standards**
 20 **of your profession, could you reach a factual**
 21 **conclusion about how individual voters voted, based**
 22 **upon the data you have?**
 23 A. You can make estimates of how individuals
 24 likely voted, and that's what I did.
 25 **Q. And -- but you can't tell me how accurate or**

Page 27

1 inaccurate that likelihood is?
 2 A. Sure I can. That's why there -- there are
 3 confidence intervals in my estimate.
 4 Given the model, my -- my model predicts
 5 both a point estimate -- that is, a likelihood that
 6 a particular voter or group of voters voted a
 7 particular way, and -- and are likely confident
 8 around that -- actually, it's not how individual
 9 voters, but strictly how the analysis does it -- it
 10 asks, how many, what number of felons from this set
 11 of 1,183 -- I think that's the correct number --
 12 **Q. Okay.**
 13 A. Are --
 14 **Q. Invalid --**
 15 A. -- invalid voters.
 16 **Q. I think what I'm hearing from you is that**
 17 **the assumption is part of what you just said you**
 18 **measured in terms of confidence level?**
 19 A. No. Again, I think you're being -- what --
 20 what the model is -- is given my -- my model, my
 21 assumption about how the world works, that leads
 22 to -- since I don't know individuals, I have some
 23 uncertainty about how I might assemble those 1,183
 24 invalid ballots, given the observed data.
 25 And there is some -- I don't know that for a

Page 28

1 fact, since I don't know how the 1,183 voted. So
 2 what the model gives me is a range of plausible
 3 values.
 4 **Q. But that range merely reflects the potential**
 5 **randomness of the data; correct?**
 6 A. Again, I think you're being not specific
 7 enough for my taste.
 8 **Q. Tell me what the range measure.**
 9 A. What the range measures is, given this model
 10 and given the data, it tells us what the ranges are
 11 of our estimate.
 12 **Q. So it doesn't -- the confidence level that**
 13 **you're talking about does not measure how accurate**
 14 **the model is in predicting how people vote?**
 15 A. That is correct.
 16 **Q. And it does not measure how accurate the**
 17 **data is or reliable or valid; correct?**
 18 A. Right. It's conditional on the data, is
 19 what we would say formally.
 20 **Q. So what I'm inarticulately trying to get at**
 21 **is, how do we find out how accurate your model is,**
 22 **your assumption that you can predict what this, how**
 23 **this group of voters voted, from their surrounding**
 24 **precincts?**
 25 A. Again, that's -- that's -- given the data we

7 (Pages 25 to 28)

Page 29

1 have, that's the only model we can put forward.
 2 With other data, you might be able to test that
 3 specification, but --
 4 **Q. Okay.**
 5 A. -- but given the available data, that's
 6 currently -- that's not a testable proposition.
 7 **Q. Okay. And what other data did you consider**
 8 **getting in order to have a testable proposition?**
 9 A. We talked about trying to get more
 10 individual data on felons. But that is not yet
 11 available.
 12 **Q. Okay.**
 13 A. And I don't know if it is available, I
 14 mean --
 15 **Q. Did you look at any polling, exit polling,**
 16 **or the like?**
 17 A. No, I didn't. Again, for the -- I know of
 18 no exit poll, for example, that asks, "Are you an
 19 invalid voter?"
 20 **Q. But you do know of exit polls that ask of**
 21 **African-American voters, "Did you vote for Christine**
 22 **Gregoire?"**
 23 A. They -- they might -- I don't know in
 24 Washington. I would -- I would -- I would be
 25 surprised if there were not exit polls, and they did

Page 30

1 not, in fact, ask their race in that question.
 2 **Q. Right. And sex.**
 3 A. Although I'd be concerned about exit polls,
 4 exit polls as we -- as we saw with 2004 -- 2004
 5 election, there's actually a lot of work to go from
 6 an exit poll to a prediction about behavior.
 7 They're not -- they're -- they're very complicated
 8 sampling structures --
 9 **Q. Okay.**
 10 A. -- particularly in a state like Washington,
 11 where you have a large number of non-polling place
 12 voters.
 13 So you have to ask, how do the -- how do the
 14 polls adjust for that -- nonresponsive and the like,
 15 so --
 16 **Q. If you were faced with an important decision**
 17 **in your personal life that had real world**
 18 **consequences, and you had to be very certain that**
 19 **you would be right, would you base it upon this**
 20 **hypothesis that you're using in this case, that you**
 21 **can predict how actual voters actually voted, based**
 22 **upon the surrounding precinct?**
 23 A. I think it's a very odd hypothetical. And
 24 so what I would tell you -- and how I lead my life
 25 is I would base my decision on the best available

Page 31

1 data I have. This is the best available data. I
 2 would make my best estimate and take a course of
 3 action based on that.
 4 **Q. Well, this isn't the best available data in**
 5 **the universe of data; correct?**
 6 A. Of course not. I can always go -- I mean,
 7 the ideal world, I don't need a possible -- we'd
 8 know exactly how these 1,183 people exactly --
 9 exactly voted.
 10 **Q. But if -- if you had time and you had the**
 11 **resources and you were doing this to make a very**
 12 **important decision, you would look at other data,**
 13 **wouldn't you?**
 14 A. It's potential that I would look at other
 15 data if -- if I think that other data is available.
 16 I mean, I'm not -- I actually mentioned in this
 17 paper there's not much other data available, that I
 18 would reliably believe.
 19 **Q. So what you're saying is we should make a**
 20 **very important real world decision, based upon this**
 21 **data set, just because it's the one that we were**
 22 **given?**
 23 A. That's a question of law for a court to
 24 decide. I present evidence to the court, and the
 25 court weighs whether that evidence is sufficient to

Page 32

1 make a decision.
 2 **Q. Under the generally accepted standards of**
 3 **your profession, can you say without knowing whether**
 4 **the data set is accurate and without testing your**
 5 **assumption that invalid voters caused the election**
 6 **of Christine Gregoire --**
 7 A. I think you've asked that question. I'll
 8 answer it again the same way --
 9 **Q. No --**
 10 A. -- which is --
 11 **Q. No. No. Don't -- don't -- do not**
 12 **affirmatively repeat what they've done. Answer my**
 13 **question --**
 14 MR. BRADEN: Wait a second. You asked him a
 15 question. Let him respond to it.
 16 THE WITNESS: My -- as I said, my
 17 analysis -- I had one bit of this case -- my
 18 analysis was asked a very specific question. Given
 19 a set of 1,183 ballots, if that were the only thing
 20 that determined the election outcome, what would
 21 have been the likely outcome, had I removed them.
 22 I was asked a very specific question.
 23 BY MR. BURMAN:
 24 **Q. And the lawyers who -- and in fact**
 25 **Mr. Braden said he represents you -- have**

8 (Pages 29 to 32)



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Court Reporting Trial Presentation Videoconferencing Videography

Page 33

1 represented to the court certain things about what
 2 your study proves.
 3 **Are you -- have you read those?**
 4 A. I haven't -- to be honest with you, I don't
 5 have time. I don't read the plethora of briefs
 6 in -- in this case, so I honestly don't -- have not
 7 read what they said about my report.
 8 **Q. Well, does -- does your report establish**
 9 **that the method that you used is the best method for**
 10 **determining who actually won the 2004 election?**
 11 A. It is -- given my professional experience it
 12 is my belief the best way to go about answering that
 13 particular question.
 14 **Q. If limited to this data set?**
 15 A. With this data set. Again, this is
 16 conditional on the data set I have.
 17 **Q. Okay. But they didn't condition it in their**
 18 **brief. They didn't say it's conditioned on the**
 19 **limited data you were given?**
 20 A. Again, I have no knowledge of this -- of
 21 what --
 22 **Q. Is this --**
 23 A. -- what they said or what they don't say.
 24 **Q. Is this the best way of determining -- not**
 25 **limited by the data you were given, but is this the**

Page 34

1 **best way of determining who won the 2004 election?**
 2 A. Again, that's a too broad a hypothetical
 3 since I don't know what your budget constraint is, I
 4 don't know what the feasible set of available data.
 5 Given the data, this is the best estimate I can
 6 make.
 7 **Q. And certainly you would have put those**
 8 **caveats on it before saying this is the best way to**
 9 **do it?**
 10 A. I'm a social scientist answering -- using
 11 general sets of scientific principles. What lawyers
 12 make claims of in court is -- they're asking a
 13 different -- they're looking at a different
 14 audience, trying to do different things.
 15 **Q. You wouldn't say this is the best method,**
 16 **without applying the caveats you've just testified**
 17 **to; correct?**
 18 A. Again, the caveats are -- I -- I -- yeah,
 19 let me -- let me actually -- again, to be clear,
 20 what -- what -- what my report says is, given this
 21 data, given what we have available, this is our best
 22 estimate.
 23 **Q. You wouldn't say that this is the only**
 24 **rational method for determining who won the 2004**
 25 **election, would you, or whether invalid votes**

Page 35

1 **affected the outcome of the 2004 election?**
 2 A. I would say that I haven't thought about all
 3 these, and what other data might be available to
 4 other analysts, so I don't feel comfortable, in
 5 fact, agreeing with that statement.
 6 **Q. Okay. And because you haven't thought of**
 7 **them, you would not say that all rational methods**
 8 **would indicate a change in the outcome?**
 9 A. Again, that's beyond my knowledge, since
 10 I --
 11 **Q. And you wouldn't say that the methodology**
 12 **you used is, quote, the most accurate possible,**
 13 **would you?**
 14 A. Again, since we don't know the set and
 15 available datas, we don't know -- given this data
 16 set, what I did -- given the set up, this is the
 17 right way to proceed.
 18 **Q. Right.**
 19 **And if you were set up, you're in trouble,**
 20 **aren't you?**
 21 A. Again, I -- there's -- again, I don't -- I
 22 don't agree with your proposition, which is "set
 23 up."
 24 I was asked, given a data set, what's the
 25 likely outcome. So that's what --

Page 36

1 **Q. And you assumed that that was an exhaustive**
 2 **census?**
 3 A. I made no -- my report made no assumption.
 4 It was conditional on this data.
 5 **Q. You actually don't know yourself whether**
 6 **these identified invalid voters voted in the 2004**
 7 **governor's election, do you?**
 8 A. Again, that's -- that's beyond my knowledge.
 9 I was given a set -- this is the set -- that these
 10 were invalid voters who voted, and here are the
 11 precincts in which they voted.
 12 **Q. And I think we've established this, but just**
 13 **to be clear, you cannot say as a matter of generally**
 14 **accepted science that your assumption or hypothesis**
 15 **about precinct proportions accurately shows how**
 16 **actual people actually voted?**
 17 A. Again, I disagree with your set up. I'll be
 18 much more specific than that. What it says is,
 19 given the available data, that is our best estimate,
 20 and that estimate has some uncertainty.
 21 With other data it might be possible to make
 22 more precise -- or estimates.
 23 **Q. I mean, at most, under generally accepted**
 24 **science, you can say that you believe there is some**
 25 **positive correlation between an ex-felon or other**

9 (Pages 33 to 36)



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1 **invalid voter's home precinct and how they voted?**

2 A. Yes. As -- as -- as, you know, I said
3 earlier, that's a commonly -- unfortunately, we
4 often make -- we make those types of assumptions all
5 the time.

6 **Q. But not when huge real world consequences
7 depend on them; correct?**

8 A. I -- well, again, it depends on your view,
9 whether or not you think that's a huge
10 consequential --

11 **Q. Well, we'll get to those. We'll get to
12 those.**

13 **And you don't know the extent to which --
14 you don't know the strength of that positive
15 correlation between the precinct vote proportion and
16 how the individual voter voted, do you?**

17 A. Again, I don't quite follow you. We don't
18 observe individual voters. That's not a notable
19 quantity.

20 **Q. Well you analyzed 1,100-some individual
21 voters; correct?**

22 A. 1,183, I believe, is the correct number --
23 or 63. And so -- but we don't know anything about
24 those individuals. We know how they -- we know the
25 precincts they came from, and we know -- actually,

1 it's about the precincts from which they came. And
2 we know, for example, correlations between the
3 precincts -- say, vote for Gregoire.

4 **Q. But you don't know the strength of the
5 correlation between how all those precincts voted
6 and how the 1,183 actually voted, do you?**

7 A. Again, I think since -- that's -- that's --
8 we don't have that data, so we don't know that, but
9 that's not quite the way I would put it.

10 **Q. I mean, if we were looking forward to the
11 2006 election, can you predict how I vote from my
12 precinct?**

13 A. I could make an -- if that was the only bit
14 of information I have, that would be my best
15 estimate.

16 **Q. Okay. And to what level of accuracy would
17 that estimate be?**

18 A. The variance would be plus -- if your
19 precinct voted, say, 6 percent for Gregoire, it
20 would be -- the variance would be "T" times one
21 minus "P," which is -- I'm terrible doing
22 calculations in my head -- and that would be our
23 relevant uncertainty.

24 If you told me more information about you,
25 that you -- you know, some more information about

1 your demographic background, I might be able to make
2 a more accurate estimate.

3 **Q. And that would include gender?**

4 A. Perhaps, yeah.

5 **Q. Race?**

6 A. Again, any -- any -- any factor which we
7 know is correlated with voting behavior would
8 improve our estimates.

9 **Q. I mean, social scientists are capable of
10 looking at 1,183 people and finding out their gender
11 and race, aren't they?**

12 A. You're asking abstractly. Perhaps one could
13 go to the data, go to the list and find out.

14 **Q. So you -- when you say the available data,
15 you're not trying to suggest that your discipline is
16 incapable of finding out the gender and race of
17 1,183 people?**

18 A. But you need more than that, actually. If
19 you -- if you're going to go to available data, you
20 need to know how in a particular election -- 'cause
21 as you know, between elections, gender, race,
22 socioeconomic status varies.

23 So you -- you'd want some sample of people,
24 and you would want to use very much like the Uggem &
25 Manza study, which was to fit them all to particular

1 elections of how these demographic characteristics
2 correlated with moot vote choice.

3 **Q. And then you fit that model to a different
4 election; correct?**

5 A. Potentially.

6 **Q. You did or didn't?**

7 A. No. You could.

8 **Q. I mean, did you --**

9 A. In this case, no, I didn't.

10 **Q. So you haven't actually applied the Manza &
11 Uggem model to the Washington election?**

12 A. That's correct.

13 **Q. You could have found out or someone could
14 have found out for you income levels of the 1,183,
15 couldn't they?**

16 A. I have -- no, actually, income level is very
17 difficult to find out. It's the question that
18 people -- one of the most unanswered questions. So
19 income level is very difficult to get.

20 **Q. What about education level?**

21 A. Again, potentially, if one were to do a
22 survey -- and then you'd have to worry about
23 response rate -- but at least in theory, that would
24 be possible.

25 **Q. And if you had that information, such as**

10 (Pages 37 to 40)

Page 41

1 education, that would have allowed you to make a
 2 more accurate estimate of how these people actually
 3 voted?
 4 A. Sure. Additional information would lead to
 5 better estimates.
 6 **Q. And that would be true of gender and race as
 7 well?**
 8 A. It would be true of any information that
 9 was -- that was, in fact, accurately correlated with
 10 vote choice.
 11 **Q. Okay. Is homeownership correlated with vote
 12 choice?**
 13 A. I -- again, I don't know Washington in
 14 particular. He have from studies that home
 15 ownership is often correlated with voting -- both
 16 propensity to vote and -- and vote choice.
 17 **Q. Census tract location?**
 18 A. Again, same. Yeah, that's just -- I think
 19 census tract is actually larger than the precincts
 20 in Washington, so that would probably not provide
 21 you with as much information.
 22 **Q. Which primary ballot they took in
 23 Washington?**
 24 A. Again, any information about the voter
 25 that's correlated to voter choice would probably

Page 42

1 help.
 2 **Q. It would be at least as reasonable
 3 assumption as the one you have made, that if the
 4 voter took a Republican ballot in the primary, that
 5 they supported Rossi in the general; correct?**
 6 A. Again, I don't -- I don't know enough about
 7 Washington politics to know if that's true or not.
 8 But one -- for example, I do know of studies that --
 9 where colleagues worry about crossover voting,
 10 strategic voting.
 11 Whether or not that happened in Washington,
 12 I have no idea.
 13 **Q. And you don't know the extent to which
 14 Washington voters split their ticket even within a
 15 given election?**
 16 A. That is correct. I don't know. I don't
 17 have data on that.
 18 **Q. Okay. And you don't know the extent to
 19 which Washington voters vote for every race on the
 20 ticket?**
 21 A. No, I would not know. I imagine they're
 22 like voters in most other places. They don't vote
 23 on every -- on every -- on every -- on every
 24 measure.
 25 **Q. Okay. Now, did you ask Mr. Bensen for the**

Page 43

1 data he has that Republicans use for targeting
 2 individual voters that they think might be
 3 sympathetic to their cause?
 4 A. No, I did not.
 5 **Q. Why not?**
 6 A. I didn't know if one knew the other -- how
 7 would one help the other, and I don't know quite who
 8 they -- how I would use it.
 9 **Q. That might help determine how they voted in
 10 this election, wouldn't it?**
 11 A. Yes. But we need both that information and
 12 the information about this demographic
 13 characteristics of these 1,100 and odd invalid
 14 ballots.
 15 **Q. Well, wouldn't it be fair to assume that if
 16 we picked out one of those 1,100 odd people, and
 17 they had been identified within the Republican
 18 database as being a strong Republican supporter,
 19 shouldn't we somehow take that into account in your
 20 analysis?**
 21 A. Again, if you have that data, you -- one
 22 could make use of that information.
 23 **Q. Or if they contributed to Dino Rossi?**
 24 A. Again, that's if you had information about
 25 how contribution patterns affected vote choice.

Page 44

1 Then you could use -- construct a model. You need a
 2 lot of data --
 3 **Q. Okay.**
 4 A. -- but you could do this.
 5 **Q. And I guess I just want to make this clear.
 6 You're not representing to the court that
 7 the precinct level proportions are the only way or
 8 the best way to predict or estimate how these
 9 invalid voters voted?**
 10 A. I would -- I'm presenting the -- that's
 11 it -- it's a good way in this case, given the
 12 available data. I do worry about certain responses
 13 and -- and -- and honesty -- or correct recall, for
 14 being polite -- on these issues.
 15 And -- but it's clearly not the only thing.
 16 One -- one could think about ways to supplement this
 17 analysis.
 18 **Q. Okay. And there are ways to design surveys
 19 to kind of hide the ball from the respondent as to
 20 what it is you're really trying to learn; correct?**
 21 A. There are -- I'm not a survey expert, but
 22 I'm sure there are ways that -- that -- they do
 23 definitely try to do that.
 24 **Q. Okay. I mean, you could ask not "Did you
 25 vote for Dino Rossi?", but you could ask some**

11 (Pages 41 to 44)



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<p style="text-align: right;">Page 45</p> <p>1 questions about attitudes, and perhaps get a more 2 accurate sense of whether they, in fact, supported 3 Dino Rossi? 4 A. I'd be a little concerned about that 5 because, again, then you're adding another layer. 6 We actually care about actual behavior. What did 7 you do? 8 Q. Uh-huh. 9 A. And attitudes are just like demographic 10 characteristics. They're correlated, but not 11 perfect predictors of this. 12 Q. So because we are concerned about an actual 13 event, how someone voted, you're a little bit 14 concerned about surveys, but you don't seem at all 15 concerned about assuming that people voted like 16 their surrounding precinct. 17 A. Again, that's an -- I think that's an -- an 18 inaccurate statement. What I've said was, this is 19 -- given this available data and given this 20 administrative data, this is the best analysis I 21 believe you can do. 22 Q. But how comfortable are you with those 23 assumptions? 24 A. I feel reasonably comfortable with them. 25 I -- again, in my ideal world, we wouldn't be in</p>	<p style="text-align: right;">Page 47</p> <p>1 Q. Okay. 2 A. It actually -- there's an -- a counting 3 error, so -- 4 Q. Okay. 5 A. -- so it's not quite the same thing. 6 Q. Did -- did you use any bounds in your 7 analysis? 8 A. As I think I alluded to in my report, 9 typical method of bounds is that number of felons 10 for a precinct, that number is relatively small. 11 The bounds are not informative in this case. 12 There's no -- there's no -- you could change one 13 with another in a precinct and that wouldn't change 14 the proportions. 15 So bounds data isn't particularly useful in 16 this case. 17 Q. If I were to make an estimate based upon my 18 great expertise in this area, that the invalid 19 voters split 50-50, do you know whether or not I'm 20 right or wrong? 21 A. No. For a fact I can't know. We -- that is 22 a statistical question. If you gave me some time 23 and we looked at the data, we could ask would that 24 be consistent with the data. Yeah, that we could 25 ask.</p>
<p style="text-align: right;">Page 46</p> <p>1 court. We would know exactly how these 11- -- 1,183 2 people voted or didn't. 3 Q. How did you get comfortable with the 4 assumption that you have a complete census of 5 invalid voters, without questioning how they were 6 put together? 7 A. I don't think I ever said that I was 8 comfortable with this. What I said was my 9 analysis -- given the data set, this is the best 10 available analysis one could do. 11 Q. So your comfort level is contingent upon 12 your assumption as to the data and the hypothesis 13 about precinct proportions? 14 A. I don't -- I don't understand that last 15 part. 16 Q. The assumption that -- that precinct 17 proportions is strongly correlated without 18 individual or a group of voters voting? 19 A. It's actually more than -- it's not -- 20 that's actually, again, not a correct statement. We 21 know, in fact, there's a -- there's an accounting 22 error in math. 23 So at some level there's only certain 24 proportions that are consistent with the data. So 25 there's not correlation in a sense.</p>	<p style="text-align: right;">Page 48</p> <p>1 Q. Or another way to say it might be, can you 2 rule it out based upon the data you have? 3 A. Again, you can ask the question about the 4 faction, the number of invalids and how they voted, 5 and we can look to see if those confidence intervals 6 included the case of 50-50 split. I don't -- I 7 haven't, in fact, done that analysis. 8 Q. Okay. It's certainly possible that every 9 single one of those 1,183 or whatever invalid voters 10 voted for Dino Rossi? 11 A. I think, as I made clear, it's possible but 12 not likely, given the data. 13 Q. Okay. How likely is it that 50 percent of 14 them voted for Dino Rossi? 15 A. Again, I think that's what we said before, 16 is that's like a statement about the bounds on 17 these -- on these number of ballots that were cast, 18 and I don't know if that -- I haven't looked to see 19 if that's -- how that's -- whether or not that is 20 supported by the data or not. 21 Q. What would you do to test that? 22 A. As you -- as I -- as I made clear, so we can 23 back out these proportions. 24 Q. Which proportions? Each precinct? 25 A. Each precinct.</p>

12 (Pages 45 to 48)

Page 49

1 And you can ask is it -- is it -- is it
 2 consistent with the proportion in which precincts
 3 that have any invalid ballots is basically 50-50.
 4 **Q. If you assume that the precinct proportions**
 5 **influence that single voter in each precinct -- I'm**
 6 **trying to get away from the assumption.**
 7 **Based on the data you have been given access**
 8 **to, how would you test my estimate that it was**
 9 **50-50?**
 10 A. You can't test your hypothesis --
 11 **Q. Okay.**
 12 A. -- on that level.
 13 What you can test is -- what you can test is
 14 did they split the -- did they evenly split the
 15 ballots. That would be the confidence intervals.
 16 You would ask -- there are two confidence
 17 intervals that are in my report. Do they both
 18 overlap to the point where they both have equal
 19 vote.
 20 If they did, then that would be
 21 consistent -- that means that would be consistent
 22 with your claim.
 23 **Q. But your confidence intervals are based upon**
 24 **your assumption that the precinct proportions are**
 25 **useful in determining how someone voted; correct?**

Page 50

1 A. That's incorrect. You're asking to verify
 2 a model, which I've told you -- as I told you, we
 3 need other data to verify.
 4 **Q. So I just want to make sure.**
 5 **Without making any assumptions about the**
 6 **validity of that model, do we have any way of**
 7 **knowing whether it was 50-50 or 60/40 or 40/60?**
 8 A. Again, my -- I -- I don't quite follow you.
 9 What I -- what I can tell you is my analysis is
 10 conditional on the model and on the data -- and
 11 conditional -- it's not with them getting an even
 12 split --
 13 **Q. Okay.**
 14 A. -- of the -- of the votes of the invalid
 15 ballots.
 16 **Q. And I apologize for being so dense, but I**
 17 **have to make sure I ask the right questions for my**
 18 **colleagues.**
 19 **Have we tested the model as to whether it**
 20 **actually shows how the 1,180-some voters actually**
 21 **voted?**
 22 A. Without actually knowing the quantity we
 23 want to know, which is how they voted, it's not
 24 directly testable --
 25 **Q. Okay.**

Page 51

1 A. -- in the way you posit it.
 2 **Q. Okay. Are there things we could do to test,**
 3 **without -- without actually proving that it clearly**
 4 **works, are there things we can do that gives us some**
 5 **better sense of how accurate it is?**
 6 A. Again, it's potential. You'd have to tell
 7 me what data was available. If you were to give me
 8 such data, I'm happy to sit down for a couple days
 9 and think about it, but --
 10 **Q. Without making any assumptions about either**
 11 **the accuracy of the data or the fit of your model**
 12 **with the real world, are you highly confident that**
 13 **you can say that invalid votes affected the vote of**
 14 **the 2004 gubernatorial election in Washington?**
 15 A. What I said is that if this 1,183 ballots
 16 were the ones -- are the exhaustive set -- if you
 17 remove those 1,183, and this was the only issue in
 18 Washington, then in all likelihood, Rossi would have
 19 won.
 20 **Q. Right.**
 21 **But the answer to my question is no, you are**
 22 **not sure; correct?**
 23 A. Again, that's not -- that's not a question
 24 I'm comfortable -- I can answer.
 25 **Q. No, I can make you answer.**

Page 52

1 A. Well, I'm answering it as best I can.
 2 **Q. No, you're not.**
 3 MR. BRADEN: Well, he just responded to your
 4 question.
 5 MR. BURMAN: No, he's restating his
 6 assumptions.
 7 BY MR. BURMAN:
 8 **Q. And I'm asking, without relying on the**
 9 **assumptions, as a human being, looking at the actual**
 10 **world and applying your expertise, without relying**
 11 **on any assumptions, can you say it is highly**
 12 **probable that invalid felon votes changed the**
 13 **outcome?**
 14 A. Again, I'm not -- I'm not -- I'm not
 15 comfortable with your proposition. I'm -- you're --
 16 I was asked in this case to analyze data as an
 17 expert. I analyzed the data and I told you here in
 18 my findings what -- you're asking me a question
 19 about a finding of fact or law that a court needs to
 20 find. That's not my expertise.
 21 **Q. No. That's not what I'm asking you.**
 22 **I'm asking you whether a court can rely upon**
 23 **what you've done in order to answer that ultimate**
 24 **question.**
 25 A. This is evidence that bears to that

13 (Pages 49 to 52)



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<p style="text-align: right;">Page 53</p> <p>1 question. Whether or not that's sufficient for a 2 court, that's, again, beyond my knowledge.</p> <p>3 Q. Well, what if the court said to you, using 4 the generally accepted standards of your profession 5 and without making any assumptions about how well 6 your model predicts, and without making any 7 assumptions about how the data was collected, can 8 you tell me that it is established that invalid 9 votes affected the outcome of the 2004 gubernatorial 10 election in Washington, what would your answer be?</p> <p>11 A. I would respond to the court by saying that 12 if this is data is accurate, then this is evidence 13 in support of that claim.</p> <p>14 Whether or not there are other issues -- and 15 that's -- again, there might be other mitigating 16 factors or other events that might have occurred. I 17 can't -- that's beyond my knowledge.</p> <p>18 Q. So you would simply restate your two 19 untested assumptions; that the data is accurate and 20 complete and that your model accurately predicts how 21 people voted?</p> <p>22 A. "Accurately predicts" is not the right word, 23 but yes, my -- my analysis is always -- is 24 conditional on the model and the data. And all I 25 can testify in court to is about what the data I</p>	<p style="text-align: right;">Page 55</p> <p>1 inference -- making facts -- making inferences that 2 say that people or groups of people are, up to some 3 randomness, are interchangeable. So we do this all 4 the time.</p> <p>5 Q. And then you test it, don't you, to see how 6 reliable it is; correct?</p> <p>7 A. In the instances you can test it when you 8 have that data.</p> <p>9 Q. So it --</p> <p>10 A. In this case, we don't have this data.</p> <p>11 Q. So it hasn't been tested?</p> <p>12 A. That is correct.</p> <p>13 Q. And what's aggregation bias?</p> <p>14 A. It's the -- you like to make information -- 15 you like to make inferences about individual 16 behavior. All you observe is aggregate behavior, 17 such as voting at a precinct level or county level. 18 And it's possible to make the assumption -- 19 you have to make a very strong homogenic assumption 20 in order for there not to be aggregation bias.</p> <p>21 Q. And you made that strong homogeneous 22 assumption here; correct?</p> <p>23 A. That's correct.</p> <p>24 Q. Did you test it?</p> <p>25 A. Again, that's not testable in this data.</p>
<p style="text-align: right;">Page 54</p> <p>1 have. It's a --</p> <p>2 Q. Come on, Professor Katz. One of the things 3 that people in your profession can do is test the 4 reliability and validity of data; correct?</p> <p>5 A. One can test aspects of it. At the end of 6 the day, one -- since you're -- it's an unknown 7 quantity, you cannot test it directly.</p> <p>8 Q. But you could have done some things to test 9 the validity of this data; correct?</p> <p>10 A. Again, with unlimited resources and data 11 that may or may not be available, it would be 12 possible to test some of the assumptions here.</p> <p>13 Q. And you could have tested the -- the fit 14 assumption between precinct proportions and 15 individual voting and/or group voting; correct?</p> <p>16 A. Again, with data on how individual invalid 17 voters voted, we could do that; but, in fact, if we 18 had that, we wouldn't need this analysis.</p> <p>19 Q. Right.</p> <p>20 So there is no generally accepted science in 21 your profession that validates that hypotheses that 22 precinct proportions can tell us how these 1,100 and 23 some people voted?</p> <p>24 A. No, I would disagree with that. We do this, 25 in fact, all the time. This is called ecological</p>	<p style="text-align: right;">Page 56</p> <p>1 Q. Would you agree, quote, that aggregation 2 bias occurs when analyzing data at a higher level?</p> <p>3 For example, a voting precinct or election 4 district is used to infer behavior at a lower 5 level -- for example, individual's votes?</p> <p>6 A. Yes. Basically, that's the definition of 7 ecological inference.</p> <p>8 Q. Okay. That's the definition of ecological 9 inference or --</p> <p>10 A. Aggregation bias is actually -- is a -- is a 11 case where there's problems that lead you -- that 12 can lead you astray, but when you make this strong 13 homogeneity assumption --</p> <p>14 Q. Okay.</p> <p>15 A. -- the aspect of making inferences from a 16 higher level to a lower level -- is the -- by the 17 way, your definition is what one ought to do, and 18 one problem one has is aggregation bias.</p> <p>19 Q. Okay. And that has also been referred to as 20 ecological fallacy --</p> <p>21 A. Yeah.</p> <p>22 Q. -- or part of ecological --</p> <p>23 A. Yeah, part of the ecological fallacy.</p> <p>24 Q. Okay. And the type of ecological inference 25 that was used 50 years ago is no longer accepted in</p>

14 (Pages 53 to 56)

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Page 57

1 **the Voting Rights Act and redistricting cases;**
 2 **correct?**
 3 A. That's actually not entirely correct. So
 4 Robinson's method, ecological aggression is, in
 5 fact, still used, and as far as I know, was cited in
 6 the Jingles case.
 7 What has happened is people have refined --
 8 in some circumstances, Robinson's methods works --
 9 so called ecological aggression works very well.
 10 What Gary King did -- I see you have his
 11 book on the table -- they show there's other
 12 information that's sometimes available which can be
 13 used to prove that estimate.
 14 **Q. And that's often referred within your group**
 15 **as King's method of EI?**
 16 A. Yes, that is correct.
 17 **Q. Okay. And you did not use that here;**
 18 **correct?**
 19 A. Yes. We actually are in a slightly
 20 different world than what Gary was interested in.
 21 In the world of voting rights case, we're interested
 22 in racial blocks analysis. So we want to know how
 23 did Whites vote and how did Blacks vote.
 24 So we want to estimate those two
 25 probabilities -- those two -- those two voting

Page 58

1 rights.
 2 Here we have a related but not exactly the
 3 same question, which is, we have a -- we have a
 4 universe of ballots -- the three million-odd ballots
 5 or so that were cast in Washington State.
 6 Now, suppose that we pulled 1,183 of them
 7 out. What would be the outcome?
 8 So it's not unrelated, but it actually is a
 9 slightly different question.
 10 **Q. And part of the reason it's slightly**
 11 **different is, in voting rights cases, you have a**
 12 **fair amount of existing science on racial**
 13 **polarization; correct?**
 14 A. There's -- there's lots of studies that have
 15 demonstrated some with some findings, some not, and
 16 it varies by locality.
 17 **Q. Okay. But it's fair to conclude, isn't it,**
 18 **that the homogeneity assumption is stronger for**
 19 **racial block voting than it is for precinct by**
 20 **precinct voting?**
 21 A. Don't quite follow you there. In fact, the
 22 racial block analysis that you do, in fact, uses
 23 this homogeneity assumption.
 24 **Q. Okay.**
 25 A. It says that, you know, Blacks vote -- we

Page 59

1 know, for example, in a precinct that was 95 percent
 2 Black, they voted, you know, 95 percent for the
 3 Democratic candidate. So we make the assumption
 4 that Blacks therefore voted 95 percent.
 5 That's, in fact, how the method of --
 6 that's, in fact, how -- how -- how ecological
 7 inference -- that's how we establish racial block --
 8 so it's the same sort of homogeneity assumption
 9 we're making -- making here.
 10 **Q. Except that here, you're make a homogeneity**
 11 **assumption about a group of people who happen to**
 12 **live and vote in a given precinct; correct?**
 13 A. We make the same homogeneity assumption in
 14 ecological inference.
 15 **Q. Okay. But with racial blocks, you actually**
 16 **have some analysis that shows that there is a strong**
 17 **correlation with how they vote; correct?**
 18 A. Again, in some cases yes, in some cases no.
 19 It's actually a question of fact in each -- in each
 20 case.
 21 **Q. Okay. And it's a -- it's a dispositive**
 22 **question of fact?**
 23 A. I'm sorry. I'm unclear on that.
 24 What do you mean by "dispositive question of
 25 fact"?

Page 60

1 **Q. Whichever side you happen to be on, if you**
 2 **can't prove that there is that correlation, you**
 3 **lose; correct?**
 4 A. Well, that's a whole -- that's -- that's
 5 beyond -- that's a legal question about what
 6 standards you need to show for or against a
 7 particular claim.
 8 **Q. Well, you just cited a Supreme Court case to**
 9 **me, so I -- I take it you're -- you want to debate**
 10 **that.**
 11 A. No, no. I cited only because you asked a
 12 particular technology. It's, in fact, used in
 13 billing rights cases. I know -- it's the one case
 14 that I know anything about.
 15 **Q. You've never used this particular model in**
 16 **voting rights cases, outside of racial block voting;**
 17 **correct?**
 18 A. I'll -- can you -- I'm -- I'm unclear about
 19 what the pronoun is referring to.
 20 What are you -- what's this method outside
 21 of voting rights cases?
 22 **Q. The assumption that you can determine how a**
 23 **group of people with no other demographic**
 24 **characteristics defined for you voted, based upon**
 25 **the precinct in which they happen to live.**

15 (Pages 57 to 60)

Page 61

1 A. We actually -- it depends on what exactly
 2 you mean by that. I mean, I've done my own research
 3 where we look at -- for example, my work with Andrew
 4 Gelman.
 5 In fact, we make this exact assumption. We
 6 fit models to the vote and we ask what the
 7 probability that a random separate voter in that
 8 precinct or in that state or in that nation that
 9 we're looking can cast a decisive ballot.
 10 So, in fact, we're making the same type of
 11 homogeneity assumption. And that's not in a -- not
 12 in a voting rights claims case.
 13 **Q. But you're not trying to determine there,**
 14 **Professor Gelman, how that voter voted, just whether**
 15 **their vote would be decisive; correct?**
 16 A. But that -- you can't know one without the
 17 other. You know -- you have to know probability --
 18 actually, you have to know how everyone else voted.
 19 **Q. All right.**
 20 A. So you're making the same sort of
 21 homogeneity assumption.
 22 **Q. But you're not predicting how they voted;**
 23 **correct?**
 24 A. Again, in order to do that, you will need to
 25 predict how everyone would vote. So yes, you would,

Page 62

1 in fact, predict how they would vote.
 2 **Q. Okay.**
 3 A. Do you mind if I have a glass of water?
 4 **Q. Sure. We could take a short break.**
 5 **Do you want to take a break at this point?**
 6 **(Recess.)**
 7 **BY MR. BURMAN:**
 8 **Q. Professor Katz, we're back on the record.**
 9 **During the break, did you think of anything**
 10 **that requires you to modify or supplement your**
 11 **earlier testimony?**
 12 A. No, I did not.
 13 **Q. Okay. In putting your report together, did**
 14 **you rely on any academic literature that uses this**
 15 **proportionate reduction from precincts as a way to**
 16 **apportion how a group of people voted?**
 17 A. I -- until this case, I'd actually never
 18 heard that term. What I used was a -- is a very old
 19 statistical technique of binomial in its
 20 generalization, and multinomial asking how you would
 21 assemble a -- a group from a larger group.
 22 **Q. Okay. And actually, what you did was**
 23 **binomial, wasn't it?**
 24 A. Yeah. And I just gave you this morning, I
 25 gave you the multinomial version of it, in case

Page 63

1 you -- in case there was some concern.
 2 **Q. Concern on your part or concern on somebody**
 3 **else's part?**
 4 A. I heard from Mark there was concern --
 5 consternation among others that there was -- that my
 6 footnote that this -- that basically 63 votes, which
 7 doesn't make a difference -- so it's actually --
 8 it's actually a question of fact of my analysis. I
 9 could do it, so I did.
 10 **Q. So -- and I will -- I promise to get to**
 11 **that.**
 12 **Mark, just for the record, for that**
 13 **supplemental supplemental report and the**
 14 **supplemental report --**
 15 MR. BRADEN: Uh-huh.
 16 MR. BURMAN: -- our questions are not
 17 intended to waive our objection to additional expert
 18 reports.
 19 MR. BRADEN: Uh-huh.
 20 BY MR. BURMAN:
 21 **Q. Is there any academic literature that**
 22 **supports the hypothesis that illegal voters within a**
 23 **precinct vote the same way as the precinct as a**
 24 **whole?**
 25 A. Again, it depends on what you mean by --

Page 64

1 statistical research is well warranted. You're
 2 asking a two-type or four-type model. This is --
 3 it's been applied to lots of things. This is just
 4 one example.
 5 I know -- I don't know of any example, but
 6 that doesn't mean it doesn't exist.
 7 **Q. And I didn't mean to be asking about the**
 8 **statistical method. It's more the underlying**
 9 **assumption of the match between how people voted and**
 10 **their precinct.**
 11 A. As I said, we do this sort of assumption all
 12 the time when we look at aggregate level data,
 13 precinct or state level data. For racial block
 14 analysis -- and we -- we do it for predicting the
 15 probability that an individual voter is deciding an
 16 election.
 17 We fit these models to behavior and say
 18 that's the -- that expectation is a reasonable
 19 proximity to what they did.
 20 **Q. Is there anything though that says, as a**
 21 **matter of generally accepted science, that that**
 22 **expectation is, in fact, accurate?**
 23 A. No. As I think I said, it's an assumption
 24 which one, given other data, that might be
 25 available -- you could -- one could test.

16 (Pages 61 to 64)



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<p style="text-align: right;">Page 65</p> <p>1 Q. Okay. Would you agree, quote, "One 2 limitation of aggregate data is that it does not 3 provide a window into individual motivations?"; 4 close quote? 5 A. I don't know any -- I don't know what 6 motivations, so I don't know anything about people's 7 motivations. What I care about is -- is -- is 8 estimating their behavior. 9 Q. But their motivations and their attitude 10 might affect their behavior; correct? 11 A. Potentially. 12 Q. Okay. And would you agree that one 13 limitation of aggregate data is that it does not 14 provide a window into individual motivations? 15 A. Again, it would depend on what question one 16 is asking, since I don't -- if one is concerned 17 about motivations and -- and opinions, then yeah, 18 aggregate data is not a very useful measure. 19 But if one cares about the actual outcomes, 20 then it can be quite a limiter. 21 Q. But motivations and attitudes might explain 22 why some African-Americans do not vote the same way 23 as your model predicts African-Americans vote; 24 correct? 25 A. Again, that is an empirical question. We</p>	<p style="text-align: right;">Page 67</p> <p>1 Q. In the voting rights cases, you're dealing 2 with much larger groups of cases; correct? 3 A. Typically. However, there have been voting 4 rights cases with very small -- my first case I 5 worked on was a case -- Deppers and Gabriel -- 6 Metropolitan Water District had a few thousand 7 people in it, and each district is actually very 8 small -- small -- so it could have been 1,100. I 9 don't know. 10 Q. Did you write a report in that case? 11 A. Yeah. 12 Q. What was the name of the case again? 13 A. I don't know the exact title. I can give 14 you -- I can have Mark -- 15 Q. Okay. 16 A. -- provide you with the case. 17 Q. That would be great. 18 A. It was the first thing I ever did. 19 Q. Okay. You can provide us with the report, 20 not just the case? 21 A. I believe so. 22 Q. Okay. 23 A. 99 percent sure. 24 Q. Are you still comfortable with the analysis 25 you did in that report?</p>
<p style="text-align: right;">Page 66</p> <p>1 can actually look to see how they voted with the 2 right data. So again, I don't -- 3 Q. And even with racially polarized block 4 voting, you have never suggested to any court that 5 all African-Americans always vote the same way; 6 correct? 7 A. That's correct. Nor did I make that 8 assumption here. 9 Q. Okay. Now, in the -- in the Voting Rights 10 Act in redistricting cases, you were basically 11 looking at -- at the tendency of a group to vote a 12 certain way; correct? 13 A. Yeah. You're estimating -- you're 14 estimating the -- the like -- one way of putting it 15 is this tendency, but what you're actually 16 estimating suggests the probability that a given 17 African-American would vote with other 18 African-Americans or for the Democratic candidate, 19 for example. 20 Q. And has this method ever been used to 21 determine to a level of precision in the -- in the 22 hundreds of voters, how they would vote? 23 A. Again, that's not -- that's not a -- that's 24 not a question of voting rights cases, so I don't 25 know.</p>	<p style="text-align: right;">Page 68</p> <p>1 A. Sure. We did racial block. 2 Q. Okay. I mean, the reason I ask is, you said 3 that was the first thing you did. I want to make 4 sure you hadn't -- 5 A. I would say my analysis has gotten better 6 over the years, but I don't -- without having 7 refreshed my memory, I can't tell you I believe 8 everything in there. 9 Q. Sure. 10 A. It was done in 2001, 2000. 11 Q. You've never testified before in election 12 contest case; correct? 13 A. Again, I don't know legally what election -- 14 what I've been involved in in deciding adjudicating 15 cases are two California cases regarding the use of 16 voting technologies. 17 This was the Inca vote case -- Inca vote 18 case -- the ACLU and others sued to enjoin the 19 County of L.A. to use Inca vote in the -- 20 Q. Recall? 21 A. -- in the recall election. 22 And -- was that the -- and there was one 23 other -- there was one other which I -- which was 24 similar. It was all about voting technologies. 25 Q. Okay.</p>

17 (Pages 65 to 68)

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Page 69

1 A. So never -- never a context like this, where
 2 there's a close election --
 3 **Q. Okay.**
 4 A. -- and a court is being asked to, say,
 5 adjudicate.
 6 **Q. Are you aware of any academic who's put**
 7 **together a report or expressed an opinion in an**
 8 **election contest case before?**
 9 A. Yeah. The only one I know of first-hand of
 10 is my colleague, Michael Alvarez, worked in the
 11 Compton case, which was a ballot ordered -- the crux
 12 of the -- of the issue was the mayoral race.
 13 In California, they're supposed to randomize
 14 the -- who comes first. And so the -- and the --
 15 the campus -- the election official didn't do that.
 16 And so the question was -- and the margins
 17 were very close -- and the question was, was that
 18 significant enough to alter the outcome.
 19 **Q. And in a sense, that's a technology question**
 20 **as well, isn't it -- the design of the ballot?**
 21 A. Yeah. It -- well, no. It's more than that,
 22 actually.
 23 **Q. Okay.**
 24 A. You're asking -- in that case they were
 25 asking, do -- do some voters, are they more likely

Page 70

1 to vote for counties that come -- who come first on
 2 the election, on the ballot? Is there something
 3 that's called a primacy effect?
 4 That's the whole -- that's the rationale for
 5 the state for -- for randomizing the ballots -- that
 6 sort of averages out across candidates.
 7 And so the question was, was there, in fact,
 8 a primacy effect in this case, and was that
 9 sufficient, did that affect a significant amount of
 10 voters to have altered the outcome.
 11 **Q. Anything in that -- that case that bears on**
 12 **this case?**
 13 A. I was not directly involved in the case,
 14 so -- so what I know -- you now know my extensive
 15 knowledge of this case -- was coffee with my
 16 colleague.
 17 **Q. Are you aware of any case in which --**
 18 **election contest case in which the ecological**
 19 **inference was used to determine the effect of**
 20 **invalid ballots?**
 21 A. Again, I don't have first-hand knowledge.
 22 **Q. Do you have second-hand knowledge?**
 23 A. No.
 24 **Q. No knowledge?**
 25 A. No knowledge.

Page 71

1 **Q. Is that correct? No knowledge?**
 2 A. No knowledge.
 3 **Q. Okay. Are you aware of any electoral -- or**
 4 **election contest case in which proportional**
 5 **reduction, based upon the precincts, was used to**
 6 **determine the effect of invalid ballots?**
 7 A. Again, I don't know the election law in this
 8 case, so I don't -- don't know.
 9 **Q. Are you aware of any redistricting or Voting**
 10 **Rights Act case in which proportional reduction from**
 11 **the precincts was used to determine how a dispersed**
 12 **group of voters voted or tended to vote?**
 13 A. Again, no, because that's not the -- the
 14 legal question -- question that's being asked.
 15 What's asked of an analyst like myself in
 16 this case is how did group Anglos votes, versus --
 17 versus Blacks or Hispanics.
 18 So we don't -- there's this sort of -- we're
 19 in a sort of different situation, where you have to
 20 ask what would happen if you were to pull them out.
 21 That's not the question.
 22 **Q. And you're not pulling out an individual**
 23 **from each precinct; you're looking at a group of**
 24 **either African-American or Caucasian voters in a --**
 25 **in a -- in a relatively small geographic area;**

Page 72

1 **correct?**
 2 A. Potentially large, potentially small -- I've
 3 done racial block analysis in the state of Texas,
 4 which is hard to say that that's a small area.
 5 And your -- and in those analyses, do imply
 6 individualized voting behavior and what we're --
 7 what we're asking here is what's the average
 8 behavior of these individuals, which is -- which is
 9 the expectation -- what we're doing here.
 10 **Q. And you're basing that analysis of the**
 11 **average behavior based upon racially polarized**
 12 **voting patterns; correct?**
 13 A. No. That's, in fact, the -- the -- the
 14 question that we're being asked to find.
 15 Is there, in fact, racially polarized -- we
 16 need to know what are the average rates of, say,
 17 Democratic candidates by Hispanics, and what's the
 18 relative number of Democrats -- the rates that
 19 would -- of which Whites vote for Democratic
 20 candidates, and are they on opposite sides.
 21 **Q. And the comparable question here would be**
 22 **how invalid voters vote; correct?**
 23 A. Well, not quite. It's how invalid voters
 24 vote, vis-a-vis, valid voters.
 25 **Q. And do you have any -- have you done**

18 (Pages 69 to 72)



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Court Reporting Trial Presentation Videoconferencing Videography

Page 73

1 anything to analyze this data?
 2 A. No.
 3 **Q. I mean, unlike African-American voters, as**
 4 **far as you know, no one in the scientific community**
 5 **has studied how illegal voters tend to vote?**
 6 A. With the one caveat where people have
 7 studied the Manza & Uggen study, which asked not how
 8 they voted. It's an estimate of how they would have
 9 voted.
 10 **Q. Right.**
 11 **So it was an estimate how they would have**
 12 **voted if it were legal for them to vote?**
 13 A. Correct.
 14 **Q. Okay. And, in fact, Uggen & Manza**
 15 **specifically say ex-felons are not like the people**
 16 **they live around; correct?**
 17 A. That's correct. They tend to be lower
 18 socioeconomic status, more -- more -- I believe more
 19 likely than not, non-White. But you'd have to go
 20 back -- I'd -- you'd have to show me their findings
 21 to show the exact --
 22 **Q. Lesser level of education, generally?**
 23 A. Generally.
 24 **Q. Okay. Now, for certain categories of**
 25 **voters, you had to make assumptions as to the**

Page 74

1 precinct they lived in; correct? -- of the certain
 2 categories of the invalid voters?
 3 A. I don't quite follow you there.
 4 **Q. Well, you don't actually -- for the person**
 5 **who voted a dead person's ballot, you don't know**
 6 **where the person who voted that ballot lives, do**
 7 **you?**
 8 A. That is correct. I only know -- I only know
 9 where the ballot was voted in -- in the precinct in
 10 which they were registered. If they voted in the
 11 wrong precinct, I have no idea.
 12 **Q. And for people who voted provisional ballot**
 13 **and who weren't even registered at all, you don't**
 14 **even know if those people were registered in the**
 15 **state of Washington; correct?**
 16 A. I don't quite follow you. If their -- if
 17 their -- if their ballots were excluded already,
 18 then they wouldn't be in the data. If the Secretary
 19 of State or whoever approves the provisional ballot,
 20 then it would be in the data set.
 21 **Q. But, in fact, you have in your data set, as**
 22 **I understand it, some provisional ballot voters**
 23 **whose ballots were scanned and included in the**
 24 **count, before any determination was made about --**
 25 A. That's right.

Page 75

1 **Q. Okay.**
 2 A. Small number.
 3 **Q. Okay. Small number?**
 4 A. Yes.
 5 **Q. And you don't know if those people even**
 6 **lived that precinct; correct?**
 7 A. Correct.
 8 **Q. So what model were you using to hypothesize**
 9 **how those people voted?**
 10 A. Again, you're assuming that they're -- that
 11 they're -- it -- if it's not that precinct, it's an
 12 adjoining precinct and they're similar.
 13 We could -- we could do further analysis on
 14 those small number of scanned provisionals.
 15 **Q. Well, I know you're familiar with Hava and I**
 16 **assume you understand in Washington, our state**
 17 **interpretation of Hava allows people to vote in any**
 18 **precinct anywhere in the state; correct?**
 19 A. That's an -- that's an -- I take your word
 20 for it. I don't know the law in the state of
 21 Washington.
 22 **Q. Okay. So what evidence do you have that**
 23 **people who voted a provisional ballot that was**
 24 **scanned in before it was determined whether or not**
 25 **they were registered voters, voted that ballot in**

Page 76

1 the precinct they live in or the adjoining precinct?
 2 A. I have no -- that's our best guess.
 3 **Q. Why -- why not make it a countywide guess?**
 4 **I mean, can you really be sure it's in the**
 5 **next precinct, instead of just some other precinct**
 6 **in the county?**
 7 A. Again, that -- that -- we could check that.
 8 Seemed plausible to apply -- it's a -- it's a small
 9 number, and we apply it to the precinct for which we
 10 have the data.
 11 **Q. Well, you have the data as to the county as**
 12 **well, correct?**
 13 A. Correct.
 14 **Q. Okay.**
 15 A. We could -- we could definitely verify your
 16 claim about what that would be.
 17 **Q. And then you could do the same thing with**
 18 **statewide?**
 19 A. Yeah. You're losing -- you're losing
 20 information -- the statewide you're losing
 21 information. So the aggregation is getting worse as
 22 you're moving up, because what's not -- what's
 23 inform- -- or unfortunately, in modern America is
 24 that people, we -- we segregate often on -- on
 25 location.

19 (Pages 73 to 76)



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Court Reporting Trial Presentation Videoconferencing Videography

Page 77

1 And so we have a lot of information on a
 2 small number of people living in a small area. We
 3 have a lot less information about people living in,
 4 say, the size of King County or living in the -- in
 5 the entire state of Washington.
 6 So we would be losing important information.
 7 So already -- so that would be -- I'd be concerned
 8 about doing that. I really would want to do it at
 9 lowest level possible of aggregation.
 10 **Q. What important information would you be**
 11 **losing?**
 12 A. As people -- this assumption you're making
 13 about homogeneity is easier, the smaller the group
 14 and the more segregated it is.
 15 **Q. Just to be precise, I'm not making that**
 16 **assumption. You're making that assumption.**
 17 A. Correct.
 18 **Q. And -- do you have any expertise or**
 19 **knowledge about how precinct boundaries are drawn in**
 20 **Washington state?**
 21 A. I do no.
 22 **Q. Do you have any idea whether they reflect,**
 23 **you know, homogenous communities?**
 24 A. Again, I have no idea how precincts are
 25 drawn in the state of Washington.

Page 78

1 **Q. Do you even know if they're uniform size?**
 2 A. I know that from my data, the number of
 3 ballots are not uniform in size. So my conjecture
 4 is it is not.
 5 **Q. Okay. You mentioned voting technology, so**
 6 **perhaps it's a good time to ask you questions on the**
 7 **manual recount.**
 8 **You've expressed an opinion on the accuracy**
 9 **of the manual recount; correct?**
 10 A. That's correct. I -- I -- I alluded to it.
 11 There's less -- there's less -- there's less -- we
 12 don't have exact data from Washington. We know on
 13 recounts, recounts often vary.
 14 The data I -- the -- the most useful data,
 15 although it's -- it's a bit dated, was the multiple
 16 hand counts in the state of New Hampshire that my
 17 colleague Steve Ansolabehere looked at. He's at
 18 MIT. And they found far larger discrepancy between
 19 multiple hand counts.
 20 **Q. How was the manual recount done in**
 21 **Washington?**
 22 A. I -- I -- I don't -- all I know is that it
 23 was -- I don't know -- by precinct, by county. I --
 24 I know there was some by hand that they -- they
 25 took. What -- the most part in the county that they

Page 79

1 did not have DRE's. They hand counted, looking at
 2 marked ballots.
 3 **Q. Okay.**
 4 A. But I don't know the actual procedures they
 5 used in the state of Washington.
 6 **Q. And do you know how it was done in**
 7 **New Hampshire?**
 8 A. Again, no. All we know -- all we know from
 9 their study is the hand -- that they count -- there
 10 they were actually paper ballot. So the ballots
 11 pretty simple. They're voting for, you know, an
 12 Alderman or whatever they called it in
 13 New Hampshire. And they would -- people would mark
 14 on a ballot and they would count them.
 15 **Q. And as I understand what you're saying, some**
 16 **colleague of yours did an analysis and said, if you**
 17 **have a stack of ballots and one person counts it and**
 18 **then another person independently counted it,**
 19 **there's variation?**
 20 A. Yeah. About 1 percent was their -- their
 21 estimate, yeah.
 22 **Q. Okay. Do you know whether the manual**
 23 **recount in Washington was independent of the prior**
 24 **recounts?**
 25 A. I do not know that.

Page 80

1 **Q. That would certainly affect the assumption**
 2 **that your New Hampshire data's relevant, wouldn't**
 3 **it?**
 4 A. No, 'cause it goes to the question about
 5 the -- the hypothetical that you're actually asking
 6 was, suppose you were to recount the ballots again,
 7 do another hand recount, what would be the -- what
 8 would be the likely variance you would see on the
 9 vote totals.
 10 **Q. And -- and I think your conclusion was you**
 11 **do not believe that you can say whether Governor**
 12 **Gregoire won by a hundred twenty-nine votes or five**
 13 **hundred votes or one vote or lost by five hundred**
 14 **votes?**
 15 A. That's probably above the accuracy of human
 16 counting. Certainly machines -- certainly ballots
 17 that were written -- that were designed for machines
 18 to scan.
 19 **Q. Okay. And so without knowing whether the**
 20 **129 is accurate, you can't say whether subtracting**
 21 **invalid felon votes actually would have changed the**
 22 **outcome can you?**
 23 A. That -- as I've said -- as I've said, I
 24 think, in my conclusions you would need to -- that --
 25 I took that as the certified count -- that's --

20 (Pages 77 to 80)



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<p style="text-align: right;">Page 81</p> <p>1 that's the -- but -- I'm sorry. Let me -- let me 2 sort of back up. 3 Yeah, if there were other sources of 4 uncertainty, that would lead to -- that's -- that's 5 not accounted for in that margin of error on the 6 margins. 7 Q. So the certified count isn't good enough for 8 you for one purpose, but it is good enough once you 9 want to -- once you apply your invalid felon 10 analysis; is that correct? 11 A. No. They're two separate analyses. They're 12 both bits of information that the court might weigh 13 into whether or not -- what's going on here. 14 I have real concerns about the accuracy of 15 hand recounts -- that there's a huge amount of 16 variability. I have also concerns about how you 17 would allocate these things. Those are two -- 18 two -- those are two bits of information that's 19 before a court. 20 Q. Okay. You made a statement about the 21 Washington manual recount accuracy, without knowing 22 really how it was done; isn't that true? 23 A. As I said, I only know -- I do not know the 24 exact details of how the Washington manual recount 25 was done.</p>	<p style="text-align: right;">Page 83</p> <p>1 count, and then the -- what the -- what the recount 2 found. 3 Q. Now in L.A. County, if there is a deviation 4 between the machine count and what the two 5 independent hand counts are, what's used? 6 A. This is actually just a -- it's actually 7 unclear. This is actually a question of law. This 8 is actually a report that goes -- that every county 9 has to put in -- and they did a 1 percent random -- 10 and I'll tell you why in a second cause it's not 11 actually a random selection -- precincts, they 12 re-count that. They include that tabulation in with 13 their certified vote. 14 I don't know of any -- at least in L.A.. 15 County, if they find a discrepancy, that they in 16 fact would alter their -- their -- the machine 17 counts. 18 Q. Okay. Assume, if you would, then in 19 Washington, if there is a discrepancy, that it is 20 re-counted again and again 'til people are 21 absolutely certain what the right number is. 22 Can you assume that? 23 A. Again, that's something I don't know. If 24 that's the case, then that would be more information 25 -- you would have an -- you would actually -- it's</p>
<p style="text-align: right;">Page 82</p> <p>1 Q. Well, let me ask you this: 2 Assume, if you would, that the method by 3 which it was done was to take the count that was 4 done by machines, and without disclosing that to the 5 people counting each precinct, have two people 6 separately count the ballots in that precinct, and 7 then compare those three independent counts. 8 Can you make that assumption for me? 9 A. I'm willing to take that supposition. 10 Q. And if those three numbers all agree, would 11 you agree that that's a more accurate method than 12 the machine count alone? 13 A. Three independent counts is a more accurate 14 count than one. That I do -- 15 Q. Okay. 16 A. That's actually a similar system to what's 17 used in L.A. County recounts -- where they use an 18 optical scan -- now an optical scan system, in which 19 they -- they actually have two teams of two count 20 each of the 1 percent manual recount. 21 And there they found -- we -- we found 22 deviations of between point three eight percent and 23 about point eight percent. 24 Q. Deviations from what to what? 25 A. Between the original count, the machine</p>	<p style="text-align: right;">Page 84</p> <p>1 not -- but that doesn't mean that the final count is 2 the right one. 3 What you want is -- what your confidence 4 level would be the average across those counts, and 5 then the variance would be the variance across those 6 counts. 7 Q. Right. 8 But you made a conclusion based upon 9 comparing two blind counts in New Hampshire and the 10 fact that there was some variation in them; that the 11 method that Washington used to do a manual re-count 12 was no more accurate than New Hampshire. 13 And the fact is, despite all this talk about 14 how precise you are, you didn't know what you were 15 talking about; correct? 16 A. I don't agree with that characterization. 17 What I said was what evidence I have, which 18 is the only evidence I have 'cause I don't know 19 about the Washington cases, where we do have -- have 20 seen subsequent count, manual re-counts, there is 21 often a fair variability. 22 Q. Why did you jump to the conclusion that that 23 was applicable to the Washington manual re-count? 24 A. Again, it's the data we have. We're making 25 assumptions about --</p>

21 (Pages 81 to 84)

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Videoconferencing

Videography

Page 85

1 **Q. You couldn't have asked how it was done in**
 2 **Washington?**
 3 A. I could have asked.
 4 **Q. Okay. So you didn't do anything to test the**
 5 **accuracy of the manual re-count in Washington;**
 6 **correct?**
 7 A. That is correct. I did not directly test
 8 the accuracy.
 9 **Q. And it's fair to say that throughout your**
 10 **reports, the level of precision and care that you**
 11 **apply is far less than you normally apply in your**
 12 **academic work; correct?**
 13 A. No. I disagree with that characterization.
 14 **Q. Would you be surprised if people in your**
 15 **area of expertise thought that this was the worst**
 16 **example of your work that they had ever seen?**
 17 A. Again, I -- I do not know that. That's
 18 other people's opinions. They can --
 19 **Q. Okay. Well, you must have given some**
 20 **thought to what the weaknesses were in your report;**
 21 **correct?**
 22 A. Sure. I -- the central weakness, 'cause I
 23 see the central analysis being this invalid ballot,
 24 is this homogeneous assumption.
 25 **Q. Okay. And -- but you didn't do anything to**

Page 86

1 **try to refine or test that; correct?**
 2 A. Again, that required data that I don't think
 3 is actually available.
 4 **Q. Okay. You must have thought gee, in my**
 5 **prior writings, I may have said some things that**
 6 **come back to haunt me in this task correct?**
 7 A. Always a potential.
 8 **Q. Okay. Which writings did you think of?**
 9 A. I didn't -- I didn't -- I didn't actually
 10 think there's anything inconsistent, but I'm sure
 11 you're going to provide me with some now, so --
 12 **Q. No. I will wait 'til May 24.**
 13 A. Okay.
 14 **Q. That will save time today.**
 15 **What's mis-reporting?**
 16 A. In what context? I assume you are
 17 referring -- are you referring to my working paper
 18 on examining NES data?
 19 **Q. Yes.**
 20 A. In that case, it was the case that -- where
 21 we had some -- misreporting in that case is very --
 22 the voter reported, responded to a survey, reported,
 23 saying they voted. That was then matched back to
 24 precinct level or county level records about whether
 25 or not you voted.

Page 87

1 And the rate the mis-reporting was a fair
 2 number of people, I think, on average, about
 3 10 percent were -- misremembered voting when they
 4 didn't.
 5 **Q. What's confounding?**
 6 A. Again, to be confounding, usually, there's
 7 some other factor that you didn't control for that
 8 one didn't control for that would -- that would --
 9 that might have caused the -- the observed pattern
 10 or effect.
 11 **Q. And in -- tell me if I'm wrong in how I use**
 12 **it.**
 13 **Would it be fair to say that there -- there**
 14 **are other factors that could explain how these**
 15 **invalid voters voted, other than the precinct**
 16 **proportions?**
 17 A. That's one bit of information. Again, if we
 18 had more information about them, that would be --
 19 provide more accurate or better information about
 20 how they voted.
 21 **Q. Okay. So that -- would that be an example**
 22 **of confounding?**
 23 A. No. Confounding is more than just the way
 24 of another factor of -- there's another factor that
 25 correlates with -- there's another factor that --

Page 88

1 that correlates -- you're sort of -- you're wrong.
 2 You're getting the causation the wrong way.
 3 So confounding is more than just there's
 4 someone else out there you didn't control for.
 5 Confounding is when you need to ascribe
 6 causal behavior -- but we're not asking actually
 7 about causal behavior. Confounding is usually --
 8 sorry. Confounding is usually about ascribing
 9 causal relationship.
 10 This -- this the analysis here is not about
 11 a causal relationship. It's asking what's our best
 12 estimate of their voting behavior.
 13 **Q. I'm sorry.**
 14 **You're saying your -- your work is not a**
 15 **causal relationship of the outcome of the 2004**
 16 **election and the voting of illegal voters?**
 17 A. Not in a statistical sense. In a
 18 statistical sense, when we talk about a causal
 19 relationship, what one means is, if I were to --
 20 to -- the best case is the clinical trial, the
 21 random study, which is, we want to know whether or
 22 not some drug treats some disease.
 23 So we divide the sample up in half.
 24 Randomly, we give some the treatment, and some not.
 25 And you say -- say -- since they were randomly

22 (Pages 85 to 88)



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Page 89

1 assigned, they might differ on just how sick they
 2 are, for example.
 3 We're interested -- the average effect --
 4 the difference between the disease, say, cure rate
 5 in the two groups is an indication of the -- of the
 6 causal impact or the treatment effect of this.
 7 Here what we care about is not the causal
 8 impact of being a felon. What we care about is
 9 predicting -- or otherwise invalid vote. What we
 10 care about is predicting how a subset of people
 11 voted by whatever means. There's not anything
 12 causal. We just want to make our best guess as to
 13 what they did.
 14 And one -- so it's a -- it's a different
 15 statistical -- it's a different statistical
 16 question.
 17 **Q. How do -- how do we figure out though**
 18 **whether our best guess is good enough?**
 19 A. Again, one would have to -- one wants to
 20 validate that where one can against known
 21 benchmarks, against other data. That's how one
 22 tests predictions.
 23 They're after the fact, so oftentimes when
 24 we fit prediction models, we would predict a -- a
 25 new election, we would look to see how our -- our

Page 90

1 estimates vary and that would give us some
 2 indication of the -- of the accuracy of our
 3 prediction.
 4 **Q. Okay. But if the judge wants to know how --**
 5 **you know, Professor Katz, help me here -- how -- how**
 6 **much can I rely on what you're telling me?, what's**
 7 **your answer to that?**
 8 A. Again, I don't know how to answer that.
 9 That's a very broad question. What I presented is,
 10 given the data of these invalid ballots, this is our
 11 best estimate of how they voted.
 12 **Q. But you can't tell him how good an estimate**
 13 **that is, how best it is?**
 14 A. Conditional on -- no, because as -- as -- as
 15 we've, I think, discussed, there might be other
 16 models, there might be other data that make for
 17 better estimates. Not that I'm aware of, but the
 18 potential.
 19 So I can't make the statement that this is
 20 the best -- this is the best, given the available
 21 data.
 22 **Q. Okay. You mentioned ecological regression**
 23 **before.**
 24 **Did you use ecological regression here?**
 25 A. No, because again, ecological regression is

Page 91

1 designed for a different purpose. There you want to
 2 actually estimate -- ecological regression is being
 3 used to estimate the voting behavior of two groups;
 4 Blacks and Whites.
 5 Here we don't -- we don't care about felons,
 6 non-felons. We just care about if you were to
 7 remove a group, some subset of the voters, what was
 8 the likely impact on the vote totals.
 9 So it's a different question. Related but
 10 different.
 11 **Q. Okay. Did you use Kinsey-eye method here?**
 12 A. Again, no. That's -- that's a form of
 13 ecological regression which is asked after this
 14 question got thrown into these voting briefs.
 15 **Q. Okay.**
 16 A. And his method works. In his case, his
 17 method, in this case, would boil down to, in fact,
 18 ecological regression because the bounds -- there's
 19 such a small number of felons per precinct, the
 20 bounds wouldn't be permanent.
 21 **Q. Okay. And -- and that's what he, in fact,**
 22 **describes in his -- I think it's 1997 book that he**
 23 **was solving that problem; correct? -- or trying to**
 24 **solve.**
 25 A. He was trying to solve. Again, he was

Page 92

1 trying to solve a particular question -- and
 2 actually, it's not how we solve it, 'cause I think
 3 Gary sort of oversold himself in the book, although
 4 he's a very dear friend.
 5 It's -- it is a -- it's not a solvable
 6 question at some level. There's an infinite number
 7 of -- of -- of voting behaviors that is consistent
 8 with the observed data.
 9 What he's trying to do is maximize the use
 10 of the information in the data, which is both, the
 11 accounting identity which underlies the ecological
 12 regression which we've been talking about, and then
 13 it's method of bounds.
 14 And so what -- what -- what he's doing --
 15 how to combine those two bits of information which
 16 no one before him thought about.
 17 **Q. You've studied turn-out to some extent,**
 18 **haven't you, in voting?**
 19 A. Yeah. As I said, I've done that working
 20 paper on mis-report of turn-out and trying to fix
 21 that. I've done some theoretical work on not so
 22 much turn-out, but this sort of -- the opposite of
 23 turn-out. People showing up -- selective
 24 abstention. People showing up to the ballot.
 25 They're invalid. Why don't they choose to vote on

23 (Pages 89 to 92)



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Page 93

1 all races.

2 **Q. And is any of that relevant here?**

3 A. Not directly. The -- the -- the selective

4 abstention work is theoretical model of trying to

5 explain sort of -- that is an attempt of causal

6 relation, although it's purely a mathematical

7 speculation at this point. We haven't figured out a

8 way to --

9 **Q. Does -- does voters expectation of whether**

10 **their preferred candidate is likely to win affect**

11 **whether they show up at the polls or whether they**

12 **actually vote in that race?**

13 A. My personal research, I haven't actually

14 looked at that question. The evidence is decidedly

15 mixed about whether or not closeness affects

16 turn-out decisions.

17 The one study, I think, although it's been a

18 long time since I've looked at it, that I think is

19 definitive on closeness effects in turn-outs is Gary

20 Cox and Michael Munger's study, I think, from

21 American Political Science Review, circa 1990.

22 **Q. Okay. Are there any studies that look at?**

23 MR. BRADEN: Who's that by?

24 THE WITNESS: Gary Cox and Munger --

25 MR. BRADEN: Sorry.

Page 94

1 THE WITNESS: -- who at the time was in

2 North Carolina.

3 BY MR. BURMAN:

4 **Q. Are there any studies that look at the**

5 **effect on whether a -- a registered voter actually**

6 **votes, based upon whether they find themselves in**

7 **the minority in their neighborhood?**

8 A. I don't quite see where you're -- where

9 you're getting at so.

10 **Q. Yeah. I'll try to make it simple, which may**

11 **be too simple.**

12 **But if I say I'm a Democrat in a**

13 **neighborhood that is largely Republican, are there**

14 **any studies that look at how that affects the**

15 **likelihood that I'll actually vote?**

16 A. There are literally entire forests have

17 fallen writing this turn-out question.

18 So is there -- there is a potential study.

19 I don't remember if --

20 **Q. Okay.**

21 A. -- but I wouldn't be surprised if there was

22 such a study, but --

23 **Q. But you're not familiar?**

24 A. -- I'm not familiar.

25 MR. AHEARNE: I'm sorry. Is that would be

Page 95

1 surprised or would not be surprised?

2 THE WITNESS: I would not be surprised. And

3 this is a -- as Phil Kline says, is a -- turn-out is

4 directly related to identified theory. There's lots

5 of good data on it. You study everything.

6 MR. BRADEN: Ascribe to BS, there's lot of

7 studies.

8 BY MR. BURMAN:

9 **Q. You mentioned something in your report that**

10 **was new to me. I think it was called the principal**

11 **of insufficient reason.**

12 A. Yeah.

13 **Q. What's that mean?**

14 A. Oh, that's actually -- that's actually a

15 standard statistical theory that says I have two

16 events. And I can't distinguish them. I have no

17 data to tell them apart. So then my beliefs have to

18 be that the likelihood of those two events occurring

19 have to be the same because that's all the

20 information I have in that single data set.

21 **Q. Have you used the principal of insufficient**

22 **reason, by that name, in any of your voting rights**

23 **acts work?**

24 A. I haven't, since most of my voting rights

25 work doesn't talk about the method. No. But that's

Page 96

1 actually the assumption you make -- all the

2 interchangeability assumptions you're making in --

3 in any statistical analysis is relied on this --

4 that up to my conditioning covariants, everyone's

5 the same.

6 And so that's just another way of saying

7 interchangeability, homogeneity -- saying the data

8 doesn't distinguish them, so I have to treat them

9 the same.

10 **Q. What do you mean by interchangeability?**

11 A. Again, that's a -- a standard statistical

12 term. It means that we have two cases. We've got

13 two individuals, two states, if they are the same

14 characteristics that we observed, then we have to

15 treat them the same. We have to treat them the same

16 if all the observables are the same in those two

17 individuals.

18 **Q. Is there any academic writing that you've**

19 **done or expert report, even beyond the voting rights**

20 **act cases that I just asked about, where -- where**

21 **you used the principal of insufficient reason under**

22 **that name?**

23 A. Where I alluded to it by that exact name,

24 no, because again, typically, most of the areas that

25 I've done expert witness work on, there's a large

24 (Pages 93 to 96)

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Trial Presentation

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1 body of literature, which is -- that's implicitly
2 used in all the analyses that we do. It's --
3 it's -- it's a homogeneity assumption -- it's by
4 another name.

5 **Q. Have you ever discussed the principal of
6 insufficient reason in any of your writing?**

7 A. Sure. In my work with Andrew Gelman, when
8 we talk about voting patterns, there the argument
9 for these -- in that literature, one's interested in
10 making mathematical statement about the relative
11 power of, say, individuals in a voting system -- so
12 voting for U.S. Senate.

13 There they -- they start out. They don't
14 look at any data, and they assume that for -- by any
15 sense of reason -- they say everyone flips coins
16 when they vote, so we evaluate the electoral system
17 rules by flipping coins.

18 What we're showing is that -- is that
19 doesn't work, because when one looks at the data --
20 is -- which is bringing more information to bear
21 than they had, that one can do better than that.
22 But that's -- yeah, I'll leave with that.

23 **Q. Did you actually study in this case whether
24 the method that you used or whether this homogeneity
25 assumption is more accurate than asking these 1,182**

1 election.

2 **Q. Right.**

3 **But you haven't done anything that will
4 allow you to determine whether that inaccuracy is
5 any greater than the -- the inaccuracy in what
6 you've done?**

7 A. Again, I haven't done any analysis of -- of
8 direct surveys of -- or -- or -- or of these
9 individuals, so I have no way of knowing.

10 **Q. What do you view is the most reliable
11 authorities on ecological inference? -- not meaning
12 people, but books or articles.**

13 A. I mean, as you have put out there, Gary
14 King's work is probably the best.

15 **Q. When you say his work, the '97, I think,
16 book?**

17 A. The '97 book, yeah.

18 **Q. Okay. And you're familiar with the book he
19 edited last year on ecological inference; correct?**

20 A. Yeah. It was some extensions, too.

21 **Q. Okay. And do you consider that 2004 book
22 also to be a reliable authority?**

23 A. You know, I've -- I -- I only -- I don't --
24 I've only seen -- I don't actually own a copy, and I
25 haven't actually looked at it, so -- and I'm sure

1 **people who they voted for?**

2 A. Did not, didn't have that information
3 so I --

4 **Q. Okay. Did you study whether the method that
5 you used is -- is more or less speculative than
6 asking those people?**

7 A. Again, no.

8 **Q. Is there any academic literature that you're
9 aware of that answers that question?**

10 A. Again, direct, I'm sure there might be some.
11 My one concern would be this data we have from the
12 National Election Study, which is people don't
13 always correctly report -- and actually, there's a
14 further finding on that -- vote force -- which
15 doesn't affect us, since we actually know who turned
16 out to vote -- that we know from the National
17 Election Study the time of their interview. So
18 they're interviewed after the election.

19 And what's noted in the record -- it turns
20 out that the way people are interviewed, because it
21 takes about a month in the sample -- the people were
22 interviewed -- the later you are in the sample, the
23 more likely you are to have voted for the winner.

24 So that seems relevant -- size would be --
25 but we're now, you know, several months past the

1 there are good chapters and bad chapters, and I
2 actually haven't looked at it.

3 **Q. Have you looked at any of the chapter?**

4 A. I've looked at it a long time ago when it
5 was in draft, so I haven't actually -- I just don't
6 remember. I can't even tell you who contributed to
7 it.

8 **Q. Professor Wakefield, did you look at his
9 chapter?**

10 A. No.

11 **Q. You know who he is?**

12 A. Actually, the name sounds vaguely familiar,
13 but I can't place where he's at.

14 **Q. Okay. What's the, in your view, the most
15 reliable basic statistics book?**

16 A. Again, that's -- I consult lots of them. I,
17 you know -- I must have a dozen in my -- in my
18 library.

19 **Q. We don't want all of them, but if you can
20 name some of them.**

21 A. As I put in my report, Larsen's book, which
22 is my first undergraduate probability theory, I'm
23 happy to cite that as a reliable book. For
24 introduction statistics books -- I mean, it depends
25 on what level and what you want to get at it.

25 (Pages 97 to 100)

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Trial Presentation

Videoconferencing

Videography

Page 101

1 Hinkley and Cox is probably the best
 2 mathematical statistical book, but that's for a
 3 different purpose than sort of the level of, like,
 4 Larson.
 5 **Q. In what way a different purpose?**
 6 A. The Hinkley and -- and Cox book is designed
 7 for grad students who are interested in mathematical
 8 statistics. So it goes through are lots of
 9 formulas, how -- about how you prove results of --
 10 there's proofs in Larsen's book as well, but it's
 11 definitely geared more towards applied work.
 12 MR. BURMAN: Can we mark that? I'm not
 13 going to make the whole book an exhibit, but --
 14 MR. BRADEN: It's number -- I think we're at
 15 13.
 16 (Respondents' Exhibit 13 was marked
 17 for identification by the court reporter
 18 and is attached hereto.)
 19 BY MR. BURMAN:
 20 **Q. Professor Katz, showing you what's been**
 21 **marked as Exhibit 13.**
 22 This is a -- basically, just a copy of the
 23 cover and the table of contents of the book from
 24 Professor King, the '97 or so book that we've been
 25 referring to; is that correct?

Page 102

1 A. Correct.
 2 **Q. Okay. And if you could look briefly at the**
 3 **table of contents, what would you say are the most**
 4 **relevant portions of the book to the task we're**
 5 **facing here?**
 6 A. Again, I don't mean -- the whole book is
 7 about this problem, so it's hard to say I would -- I
 8 would cite any particular chapter, and to be honest
 9 with you, it's been a long time since I've read
 10 individual chapters of the book.
 11 **Q. Okay. Are there any parts of the book that**
 12 **you recall at this time, that you felt were**
 13 **unreliable?**
 14 A. Again, I -- it's been about six years since
 15 I've read this book cover to cover, so I'm
 16 uncomfortable saying anything.
 17 And I believe the general methods and this
 18 combining of bounds -- and I'll leave it at that.
 19 MR. BURMAN: Okay. Let's mark that.
 20 (Respondents' Exhibit 14 was marked
 21 for identification by the court reporter
 22 and is attached hereto.)
 23 BY MR. BURMAN:
 24 **Q. Showing you what's been marked as**
 25 **Exhibit 14.**

Page 103

1 **Is that the cover page of the Larson book**
 2 **that you just referred to?**
 3 A. It looks like it. I don't have my actual
 4 copy with me so.
 5 **Q. Okay. You cited the third edition, I**
 6 **believe, in your report.**
 7 **Do you know whether there's a more recent**
 8 **edition?**
 9 A. There might very well be. I don't know if
 10 there is or not. The original, the first edition
 11 is, like, from the late '60s or early '70s, so I can
 12 very well believe there's a newer version.
 13 (Respondents' Exhibit 15 was marked
 14 for identification by the court reporter
 15 and is attached hereto.)
 16 BY MR. BURMAN:
 17 **Q. Showing you what's been marked as**
 18 **Exhibit 15.**
 19 **Does that appear to be the cover page and**
 20 **contents and the material up front of the 2004 book**
 21 **that Professor King and others edited?**
 22 A. It -- it -- it very well looks like it. To
 23 be honest with you, I actually don't own -- I -- I
 24 only keep this in PDF form. I -- I don't actually
 25 own the hardcover. But it actually looks like it.

Page 104

1 **Q. Were you asked to review a draft of any part**
 2 **of this at any time?**
 3 A. Actually, I was given at various points --
 4 Gary showed me some things in here, but actual final
 5 versions, I don't know.
 6 **Q. Okay. Let me show you what was marked as**
 7 **Exhibit 16 in Professor Gill's deposition, an**
 8 **article on assessing the accuracy of polls in**
 9 **surveys.**
 10 MR. BRADEN: Are we going to mark it 17?
 11 MR. BURMAN: No, we're not going to mark it.
 12 I just want to ask him about it.
 13 (Respondents' Exhibit 16 was marked
 14 for identification by the court reporter
 15 and is attached hereto.)
 16 BY MR. BURMAN:
 17 **Q. Are you familiar with that article?**
 18 A. I'm not.
 19 **Q. Okay. Are you aware of Professor Cloud?**
 20 A. I've met him at events and I know he's a
 21 he's a leading expert in surveys, but I don't.
 22 **Q. You haven't.**
 23 **Okay. Do you think his work is a reliable**
 24 **authority on the questions summarized by the title**
 25 **of that article?**

26 (Pages 101 to 104)



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1 A. Without reading the article, I'm -- I'm
 2 uncomfortable making such a statement.
 3 **Q. Okay. I like it when you're careful.**
 4 **Have you reviewed Professor Gill's report**
 5 **or --**
 6 A. I have not.
 7 **Q. Okay. In your opinion, is there a best**
 8 **method for determining the impact of illegal votes**
 9 **on an election?**
 10 A. Again, it's a very broad question. What one
 11 can ask is, given a particular -- what data is
 12 available, what is the best estimate. I believe
 13 there are good estimates.
 14 **Q. But they're dependent upon the data that are**
 15 **used?**
 16 A. They're dependent on the data available and
 17 the exact question one is trying to answer.
 18 **Q. Okay. Are you familiar with an article by**
 19 **Gerald Kramer on the "Ecological Fallacy Revisited,"**
 20 **from 1983, in the APSR?**
 21 A. I read it a million years ago in graduate
 22 school.
 23 **Q. Is it accepted as a reliable authority in**
 24 **this area?**
 25 A. Again, I believe -- I -- I can't make any

1 opinion -- not -- without refreshing my memory, I
 2 have a hard time.
 3 I think highly of Professor Kramer -- until
 4 he went insane -- no, literally. But I haven't
 5 reviewed that paper in -- in -- in a very long time,
 6 although if I recall, it's on a very different
 7 topic. He was interested in questions on economic
 8 policy -- economics and so called pocketbook voting.
 9 **Q. Now, why is that a very different question?**
 10 A. What he was -- if I recall -- again, this is
 11 with the supposition that I'm correct about the
 12 general topic of the article. I haven't read it in
 13 15 or 20 years.
 14 He's interested in the question about how
 15 does -- do economic conditions, either the
 16 macroeconomic questions, unemployment or the like,
 17 or personal economic situations, under what
 18 conditions will those lead voters to punish or not,
 19 the incumbent.
 20 So again, he's asking a causal question of
 21 how the state of the economy might affect someone's
 22 voting intention --
 23 **Q. Okay.**
 24 A. -- not about predicting it.
 25 **Q. And -- and your opinion is that that is less**

1 **related to the topic before us today than is racial**
 2 **block voting, for example?**
 3 A. Yes, because in both -- in -- in -- in -- in
 4 the case here, we're not interested in causality.
 5 We're not actually interested in does invalid cause
 6 you to vote or does being Black cause -- we're
 7 actually interested -- does -- what's your best
 8 prediction of -- about voting outcome, how some
 9 individual or group of individuals voted, so --
 10 **Q. I -- I must be missing the point.**
 11 **You are predicting that living in a**
 12 **particular precinct somehow causes you to vote the**
 13 **way the precinct votes, aren't you?**
 14 A. No. What I'm saying is there's a strong
 15 correlation. Whether or not that -- that's not
 16 causal in the sense that -- of the treatment effect
 17 we talked about before, which is that if I moved you
 18 to a different precinct.
 19 So there's -- so there's a difference
 20 between that and causal impact, which is -- the
 21 counterfactual is if I moved you to another precinct,
 22 would you vote differently.
 23 All I care about in the analysis is there's
 24 a correlation between where you live and how you
 25 vote. That's pretty much for -- for prediction.

1 The easiest way to think about it is,
 2 suppose I want to predict GDP this quarter. My best
 3 estimate is GDP last quarter. What that means is
 4 the same process that drives it is summarized by
 5 last quarter's GDP and, therefore, that helps me to
 6 predict future's GDP.
 7 So if you asked me -- but if you ask me --
 8 it's possible to ask me, how do you rate GDP? --
 9 I'll tell them, make GDP this year higher. Not the
 10 causal things about structural effects of the
 11 economy or government spending or tax policy or
 12 choose your favorite macroeconomic theory.
 13 So that's the key difference.
 14 **Q. That's helpful.**
 15 **And you haven't studied whether there is, in**
 16 **fact, a strong correlation between how invalid**
 17 **voters vote and their precinct of residence;**
 18 **correct?**
 19 A. Well, no. That's not entirely true. What I
 20 found is, in the precincts that there's invalid
 21 votes, there are more -- they are more -- they are
 22 more likely to have voted for Gregoire than Rossi --
 23 in the sample that I have.
 24 **Q. Right, of course.**
 25 **It's also possible that the sample was based**

27 (Pages 105 to 108)



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1 upon looking only in the places that there was a
2 strong vote for Gregoire; correct?

3 A. That's beyond my knowledge, yeah.

4 **Q. Okay. But if -- what's acums resa?**

5 A. What's the simplest explanation to explain
6 some fact is usually the right one.

7 **Q. And do you accept that generally?**

8 A. As a -- as a reasoning principal, it's
9 generally the one.

10 **Q. Okay. And wouldn't the simplest explanation**
11 **for the correlation you saw between where invalid**
12 **voters were found and the proportion of people who**
13 **voted for Gregoire, would be that the people who**
14 **selected where to look, looked in the places with**
15 **high Gregoire votes?**

16 A. I don't find any simple explanation --
17 believe that these -- I think they're equally
18 simple, so I don't think acums resa determines which
19 one you --

20 **Q. Why -- why would you assume that invalid**
21 **voters voted for Governor Gregoire?**

22 A. I didn't. What I said was -- I misspoke in
23 that last statement. What I said was that the best
24 guess of -- of how they voted is how their precinct
25 voted.

1 **Q. Well, you would agree, wouldn't you, that**
2 **the fact that a voter is a male and the candidate is**
3 **a female has some strong correlation of how that**
4 **voter votes?**

5 A. Again, that's an -- that's empirical
6 question one can establish. I don't know if it's
7 been established in this case.

8 **Q. It's -- it's often been established, hasn't**
9 **it?**

10 A. I actually don't -- haven't seen -- there
11 are often studies of those -- gender indicator, and
12 they do find that women vote differently than men.

13 **Q. Okay.**

14 A. You're asking a different question. Which
15 is -- although they very well might exist, where
16 they ask gender. I know there's a lot of questions
17 asked about the race of voters. So does the race of
18 the voter affect the candidate.

19 **Q. Do you know who Governor Gregoire ran**
20 **against in the primary in Washington?**

21 A. I do not.

22 **Q. If that person were an African-American and**
23 **if her racial attitudes became an issue in the**
24 **primary election, you would agree, wouldn't you,**
25 **that that might have affected how African-Americans**

1 voted in the general election?

2 A. Again, that's an empirical question which
3 you can test. I don't know enough about the
4 politics of Washington.

5 **Q. Wouldn't you expect that that kind of ground**
6 **level facts would be more indicative of how voters**
7 **voted than what happened in Virginia in 1984 in the**
8 **Uggen & Manza study?**

9 A. Again, they are both pieces of information
10 that one will want to bring to bear.

11 **Q. Okay. And you wouldn't give any more weight**
12 **to the Uggen & Manza study, than the study to -- the**
13 **information specific to Washington State?**

14 A. Depending upon how it's constructed. So the
15 big caveat is how the study was done and what the
16 sample was.

17 So Uggen & Manza study seems to be a well
18 done, well thought out study that considers lots of
19 factors and has a large set of data that seems
20 representative. So if you have such a study in
21 Washington, then I would give it weight as well.
22 But that's a big caveat.

23 **Q. Is proportional analysis an accepted**
24 **solution to the ecological inference problem?**

25 A. Again, the ecological inference problem was

1 a slightly different problem. There, the way the
2 inference problem was posited by Professor King and
3 others -- where you want to talk about the racial
4 voting, the racial block voting.

5 Here, we know the votes. We just want to
6 know if we were to subtract a vote, how would that
7 change. Comes directly out of the binomial and
8 multinomial model.

9 **Q. But isn't it your fundamental assumption**
10 **that the precinct you live in is strongly correlated**
11 **with how you as an individual illegal voter voted?**

12 **Isn't that --**

13 A. That's how any voter voted -- invalid or
14 not.

15 **Q. Isn't that an ecological inference?**

16 A. That's -- is it an ecological inference?
17 Ecological inference is actually asking -- we want
18 to estimate a particular group within a precinct --
19 within.

20 Here, so it's an -- it's a very fine point.
21 So I'm trying to think how to -- how to -- how to
22 put this clearly.

23 Here, we're not asking about how -- how do
24 invalid -- how do invalid votes -- how did invalid
25 voters vote, differently or not, from valid voters.

1 Here, although the information we're using is
2 exactly the same that's designed in ecological
3 inference, well, our best guess for how Blacks voted
4 is to look how -- how the faction of Black votes
5 correlates with the faction of Democratic votes.

6 And so you're doing -- so the same sort of
7 assumption here.

8 But there's one more level down, which --
9 which you have to do. In this case, you're asking
10 how am I going to think about -- if I could, in
11 fact, identify them after the fact, what's the
12 likelihood that I would -- that sample, that group,
13 that subset vote broke -- broke a -- a particular
14 way.

15 **Q. Okay. So unlike the work that's done in the**
16 **voting rights acts cases, there's an additional**
17 **unknown here; correct?**

18 A. I don't know if it's an additional unknown.
19 I would say it's a -- it's a slightly different
20 problem. It's a -- you want to ask -- asking how --
21 what would happen if you were to subtract some
22 votes. You're not asking in a voting rights case --
23 what would happen if you were to lose some votes.
24 We don't -- given the group's history -- the voting
25 history, are these groups voting at odds or -- or

1 hard problem. You're asking -- the strong
2 homogeneous assumption can be wrong. That's the
3 problem with it.

4 It's -- it's -- you're -- you're -- in order
5 to get the answer, you're going to have to -- to
6 make some assumption about voting behavior. And you
7 can make these sort of homogeneity, sort of
8 interchangeability assumptions.

9 So in the -- and if you ask about Gary
10 King's work, where he's assuming in the method of
11 bounds, is that there are precincts that are highly
12 African-American -- are very informative of how a
13 voter -- an African-American voter that might only
14 have 2 percent -- so, but it's that assumption that
15 allows one to identify the estimate.

16 Just like in this case, the assumption that
17 they're voting the same, that's the same as -- that
18 the voters are voting like members of their
19 precinct, like the other members of their
20 precinct -- is identifying the estimate.

21 **Q. Have you done any analysis of whether the**
22 **incidence of ex-felons is greater in King County**
23 **than it is elsewhere in the state of Washington?**

24 A. I think King County -- I think in my table,
25 there's more invalid ballots and felons in

1 together.

2 **Q. But here you're -- you're addressing the**
3 **question of these 1,183 and saying, trying to find**
4 **out whether they voted together or at odds; correct?**

5 A. No. We're, again -- well, I'm not -- I
6 don't care -- well, I do care -- I mean, what we
7 care about is our best estimate of how they voted.
8 And given the information, the best estimate we have
9 is how their precinct voted.

10 **Q. But in the voting rights acts cases, you**
11 **have the additional piece of information, which is**
12 **how a racial block tends to vote; correct?**

13 A. No. That's, in fact, the -- that's the
14 question which we're trying to answer in racial
15 block analysis. We don't know that number. That's
16 the next -- the numbers -- those two numbers are
17 what we're trying to estimate.

18 **Q. You can test that though in those cases;**
19 **correct?**

20 A. No. You can't test it. That's, in fact,
21 what you're estimating. That's the quantity that's
22 being estimated.

23 **Q. What other problems did you see with**
24 **ecological inference, generally?**

25 A. Again, it's -- it's -- it's a mathematically

1 King County. It is -- but whether or not there's
2 greater incidences, I don't know the incidences of
3 where the ex-felons live.

4 **Q. Generally. Ex-felons, generally.**

5 A. Generally, my only guess would be since
6 King County has the huge faction of the state's
7 population, I wouldn't be surprised if they have a
8 higher incidence, but I -- I honestly don't know
9 that.

10 **Q. How huge a faction is King County of the**
11 **state's voter total?**

12 A. I don't know off the top of my head.

13 **Q. Okay. Do you have any reason to assume that**
14 **the incidence of ex-felons in King County is higher**
15 **than the proportion of King County voters, compared**
16 **to state voters as a whole?**

17 A. Again, off the top of my head, I don't know.

18 **Q. And you didn't study that as part of your**
19 **analysis?**

20 A. No.

21 **Q. Do you have any reason to assume that the**
22 **ex-felons who happen to be located in King County**
23 **are more likely to vote illegally than ex-felons**
24 **elsewhere?**

25 A. Again, I don't know that.

Page 117

1 **Q. Okay. If you had been curious about the**
 2 **data you were given, one thing you could have done**
 3 **was to compare what it showed as to ex-felon voters**
 4 **geographically, to the incidence of ex-felons,**
 5 **generally.**
 6 A. Here we're asked -- again, I think that's
 7 not a correct way of putting it.
 8 So here we actually know, at least with this
 9 set of invalid ballots -- if I was asked this
 10 question, in this set of invalid ballots, what is
 11 the outcome? -- whether or not -- you're asking to
 12 ascertain whether or not this set of invalid ballots
 13 is correct or not -- and that -- that, I did not do.
 14 **Q. Okay. But if you had done that, one piece**
 15 **of useful information would have been the incidence**
 16 **of ex-felons in the state in King County, as**
 17 **compared to the state as a whole; correct?**
 18 A. Again, one would probably want to look at
 19 that -- that -- that distribution. That would be
 20 one way to help validate the data.
 21 **Q. Okay. And if -- if the percentage of**
 22 **King County ex-felon voters in the data set, as a**
 23 **percentage of all ex-felon voters in the data set**
 24 **you were given, was twice the incidence of ex-felons**
 25 **in King County, compared to the state as a whole,**

Page 118

1 **that would be a piece of evidence of some potential**
 2 **bias in the data; correct?**
 3 A. Yes and no, 'cause again, here, if we're
 4 treating the set of invalid ballots as an exhaustive
 5 set, then no. I said my analysis is conditional on
 6 that.
 7 If one is asking what the bounds would be if
 8 there might be other felons that are not caught in
 9 this -- you -- you actually need two bits of
 10 information in this. You need to know their voting
 11 rates.
 12 And your underlying assumption is the voting
 13 rates are the same for ex-felons in King county as
 14 in others, and that may -- that's a -- a plausible
 15 first assumption, and -- and probably probative.
 16 **Q. Okay. I mean, you didn't ask the people who**
 17 **gave you the data, "Is this a complete census?" You**
 18 **assumed it was; correct?**
 19 A. Again, I was asked to analyze this data set,
 20 not asked what would be the impact of the subset of
 21 others --
 22 **Q. Well, in your profession though, typically,**
 23 **if someone came to you with some data, you would ask**
 24 **some questions about, is this a complete census? Is**
 25 **this a random sample? What is this you're giving**

Page 119

1 **me?**
 2 A. Right. I worked on the assumption that it's
 3 a complete census. But again, that wasn't -- wasn't
 4 what I was asked. What I was asked to do was a
 5 very narrow question.
 6 **Q. And -- and certainly, before your conclusion**
 7 **would be accepted, for example, by a peer reviewed**
 8 **journal in your profession, an article based upon**
 9 **your conclusion, they would ask you some questions**
 10 **about the data; correct?**
 11 A. Right. If I were to do a complete study
 12 about felon voting in -- in -- in Washington, I
 13 would do more.
 14 That was not what I was asked to do in this
 15 case.
 16 **Q. So what you were asked to do in this case**
 17 **is -- does not satisfy the standards of generally**
 18 **accepted social science, to reach the conclusion**
 19 **that invalid voters actually affected the outcome of**
 20 **the 2004 election; correct?**
 21 A. No. I disagree. My -- my analysis is
 22 conditional on the data which other people worked
 23 on, and it's a question for the court to decide
 24 whether --
 25 **Q. No, I'm asking you if the question was not**

Page 120

1 **for the court, but as a matter of generally accepted**
 2 **science, it would be necessary to determine whether**
 3 **the data was actually complete or random; correct?**
 4 A. Well, in this case, randomness is not what
 5 you want. It would be complete. So yeah, one would
 6 want to ascertain that that was, in fact, a complete
 7 accounting; or if that were not possible,
 8 sensitivity bounds about how that would change, were
 9 they -- were there possibility of other voters,
 10 other invalid voters.
 11 **Q. I mean, it's possible to construct an**
 12 **approach to this question that uses a random sample,**
 13 **isn't it?**
 14 A. You have to be -- "random" is a very general
 15 term.
 16 Could you be more specific about what you
 17 mean?
 18 **Q. Sure.**
 19 **For example, you have a list of all**
 20 **ex-felons in the state of Washington --**
 21 A. Uh-huh.
 22 **Q. -- and you have a list of everybody who**
 23 **voted in the 2004 election.**
 24 **You could cross match those; correct?**
 25 A. Yes.

30 (Pages 117 to 120)



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Court Reporting

Trial Presentation

Videconferencing

Videography

Page 121

1 **Q. And if you didn't want to look at every**
 2 **single hit to determine whether it was actually an**
 3 **invalid voter, you could do a random sample of the**
 4 **hits?**
 5 A. Sure. You could do a random sample. And
 6 that would -- and you could account for that
 7 randomness; that is correct.
 8 **Q. Okay. And that really would be the two**
 9 **alternatives, before you could rely on that data,**
 10 **either a complete -- complete census or reliable**
 11 **random sample?**
 12 A. Or -- or -- or an incomplete census, where
 13 you knew something about the cases you excluded.
 14 **Q. Okay. And here you were not told anything**
 15 **about the cases that were excluded?**
 16 A. Correct.
 17 **Q. How did you happen to get involved in this**
 18 **case?**
 19 A. Clark and Mark called me up, and I had just
 20 gotten back from Turkey. So beginning of April, was
 21 it? I forgot the exact date. I forgot when I was
 22 away.
 23 **Q. Clark, meaning Mr. Bensen?**
 24 A. I'm sorry. I've worked on a few cases with
 25 Clark Bensen and Mark Braden.

Page 122

1 **Q. What is your compensation arrangement?**
 2 A. I am compensated -- I am paid by the hour,
 3 \$350 an hour. I was given a \$5,000 up-front
 4 retainer.
 5 **Q. And how many hours have you put in so far?**
 6 A. My last -- I should -- I should tell you the
 7 number of total hours. I -- my last bill up
 8 through -- was about \$17,000.
 9 **Q. Were you given any sort of budget or not to**
 10 **exceed amount?**
 11 A. I actually had a conversation with Mark
 12 about this morning. I had estimated I thought this
 13 case would take about \$20,000 of my time -- where
 14 we're, in fact, over that.
 15 MR. BRADEN: If you ask him any more
 16 questions we'll go way over that.
 17 THE WITNESS: He doesn't care.
 18 MR. BURMAN: That's a tempting invitation.
 19 BY MR. BURMAN:
 20 **Q. It's quite unusual in academic papers, isn't**
 21 **it, to say I was given this data, but I can't vouch**
 22 **for it in any way, but -- and here's some analysis**
 23 **of it?**
 24 A. No. We do it all the time. So, for
 25 example, people who study National Election Study,

Page 123

1 we don't -- they don't start off their paperwork by
 2 justifying the use of the National Election Study
 3 by, well, I get data.
 4 I mean, I do this all the time. I have data
 5 on congressional elections, so -- on -- so the NSU
 6 might have some hope about it -- it's a
 7 multi-university funded, federally funded project
 8 with a board of directors. I get data from Gary
 9 Jacobson.
 10 I mean, I do some cursory checks, but I
 11 assume that Gary Jacobson's data on congressional
 12 elections is correct, as do -- as do my readers.
 13 **Q. Right.**
 14 **And so that's because that's a known source**
 15 **in the academic -- in your academic field of that**
 16 **data; correct?**
 17 A. Correct.
 18 **Q. So you -- you would not come forth with data**
 19 **from an unknown source and -- and simply expect it**
 20 **to be accepted in your profession?**
 21 A. Again, it would depend on what that source
 22 was and -- and what was available and what one's
 23 trying to say with it.
 24 So I think you're, again, you're
 25 overstepping a little bit.

Page 124

1 **Q. Okay.**
 2 A. We get we get data all the time, for example
 3 from registrars, county registrars. And I think
 4 there are often -- there are often inaccuracies in
 5 that, but we -- which they're sometimes found
 6 sometimes not.
 7 One hopes and one tries to check for larger
 8 ones that would impact your analysis.
 9 **Q. And when you said county registrar's data**
 10 **sometimes has inaccuracies, you weren't just talking**
 11 **about Washington State, were you?**
 12 A. Correct.
 13 **Q. Okay. You have no opinion as to whether**
 14 **there were more mistakes made in the election in**
 15 **2004 in Washington than are made in other states;**
 16 **correct?**
 17 A. No, I haven't. I haven't studied that and
 18 looked through the record of what's going on and --
 19 and details of how the Washington election was
 20 handled.
 21 **Q. And you have no opinion as to whether there**
 22 **were more errors or illegal voters in 2004 in**
 23 **Washington than there had been in 2000 in**
 24 **Washington?**
 25 A. I don't have that information; that is

31 (Pages 121 to 124)



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Court Reporting Trial Presentation Videoconferencing Videography

Page 125

1 correct.

2 **Q. Now, you said you had gotten data from**

3 **Professor -- was it Jacobson?**

4 A. Uh-huh.

5 **Q. Even then you would have done some cursory**

6 **checks.**

7 **What kinds of cursory checks would you do?**

8 A. We did some -- like, I gave this set of

9 e-mails. I found 60 ballots changed in one precinct

10 in -- in Clark County. I -- and that was an odd

11 thing to me, so I pointed that out to Clark -- to

12 Mr. Bensen, and he went back, and he -- which he

13 had -- and we tried to establish where those 50

14 votes.

15 So I -- there are things that come up all

16 the time as you're doing an analysis -- a data point

17 doesn't look right.

18 **Q. In your data -- in the data you were given,**

19 **the Rossi selection, there were many precincts with**

20 **zero invalid votes?**

21 MR. BRADEN: Oh, it finally came up, and so

22 it's been a long time since you described Rossi

23 selection.

24 We -- I object to that characterization of

25 it. It's an inaccurate characterization. But to

Page 126

1 make the deposition go forward without any problems,

2 you're most certainly able to use that shorthand.

3 But you're incorrect.

4 MR. AHEARNE: Just so I'm clear, what's

5 incorrect?

6 MR. BRADEN: At the beginning, he defined

7 and decided he would call something Rossi select. I

8 just think it's a wrong characterization.

9 MR. AHEARNE: Okay. Okay. I just want

10 to -- I didn't hear the first part so --

11 BY MR. BURMAN:

12 **Q. There are a lot of precincts with zero**

13 **invalid votes in the Rossi selection; correct?**

14 A. There are many. I think probably the

15 majority, but I haven't looked at the exact numbers

16 of precincts with or without invalid votes.

17 **Q. And did you reach any conclusion as to**

18 **whether that was likely to be true?**

19 A. No.

20 **Q. Okay. Did you analyze how likely or**

21 **unlikely it is that all those precincts had zero**

22 **invalid votes?**

23 A. Again, I -- I have no information, as I

24 said.

25 **Q. Okay.**

Page 127

1 A. My data was conditional upon the set of

2 invalid ballots.

3 **Q. So you didn't try to measure that?**

4 A. No.

5 **Q. Okay. I know you know from the e-mail that**

6 **I asked if you could identify where in the**

7 **Roy Saltman paper there's information about the**

8 **inaccuracy of the manual re-count in Washington.**

9 **Did you --**

10 A. Yeah. It's -- I thought -- I tried to make

11 clear in my e-mail, it's not fully paginated.

12 Section 2.1 -- I don't -- can I look at my report

13 for a second? It's --

14 **Q. Sure.**

15 A. It's not --

16 **Q. Was the section identified in the report?**

17 A. Yeah.

18 **Q. Oh, I'm sorry. I didn't see that. Or I saw**

19 **it, but it didn't register with me what --**

20 MR. AHEARNE: Okay. For my benefit, looking

21 at the other end of the table, what exhibit are you

22 looking at?

23 MR. BURMAN: Oh, it's --

24 THE WITNESS: Sorry. It should be -- I

25 think it's Exhibit 1. My original report.

Page 128

1 MR. AHEARNE: Okay.

2 THE WITNESS: Yeah. Plaintiff's --

3 Defense -- yeah, Exhibit 1. So on page -- section

4 3.2.1 -- it's quoted right after the statement.

5 BY MR. BURMAN:

6 **Q. Okay.**

7 A. And he was actually talking about, not so

8 much about re-counts -- the use of paper ballots and

9 hand counts.

10 **Q. So he didn't actually say anything that was**

11 **specific to the method of manual re-count used in**

12 **Washington?**

13 A. Yes, he did, in the sense that humans

14 counting ballots don't do an accurate job of it.

15 And that's his -- that's his -- that's his opinion.

16 He's a long time researcher and practitioner in

17 elections. And I was only quoting for support in

18 that, and the quote is about all that is to say in

19 this report.

20 **Q. But there's no analysis about the actual**

21 **method that was used in Washington; correct?**

22 A. No.

23 MR. BRADEN: Was there a method?

24 MR. BURMAN: If you're going to try to prove

25 that at trial, we'll find that out.

32 (Pages 125 to 128)

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1 BY MR. BURMAN:

2 **Q. Are you aware of the Monet effect?**

3 A. I'm unaware of that term.

4 **Q. Were you aware that there were some**
5 **particular invalid voters who did provide to the**
6 **newspapers what they claimed was the way in which**
7 **they voted?**

8 A. Again, I might have -- I don't -- haven't
9 had time to sort of keep up with all the news
10 that -- Washington news on this, so I -- I think I
11 vaguely recall hearing that, but I --

12 **Q. Okay.**

13 A. -- I don't have any systematic recollection.

14 **Q. Okay. And you didn't analyze whether or not**
15 **that was consistent with your data?**

16 A. Did not.

17 **Q. Okay. Now, as I understand it, you did not,**
18 **until the supplemental supplemental report**
19 **specifically analyzed what I would call the residual**
20 **votes, the Bennett write-in under-vote, over-vote**
21 **category?**

22 A. Right. The votes other than for Bennett,
23 Rossi, and Gregoire.

24 **Q. And why did you -- you did it because**
25 **somebody said that there was some consternation**

1 **about it?**

2 A. No. I did it 'cause I saw -- as I think you
3 have on your table, and you quoted, I think, in
4 conversations in Mark and Clark, there was some --
5 I'm sorry -- Mark Braden and Clark Bensen. I should
6 be specific -- about whether or not this was an
7 issue.

8 I didn't -- this -- it was material to my
9 analysis, but since it's actually verifiable -- with
10 some work it was a verifiable fact, I went ahead and
11 verified it.

12 **Q. Now, you also saw the commentary by**
13 **Professor McDonald on your report?**

14 A. Yes.

15 **Q. And I take it you had some sort of**
16 **communication directly with him?**

17 A. Yeah. I called him.

18 **Q. Okay.**

19 A. When he -- I said I will not reply to a
20 public list on a current impending litigation. I
21 thought his statements were inaccurate. He recanted
22 once.

23 Then he wrote a second report, in which I
24 had a second conversation with him, and he recanted
25 a second time.

1 **Q. And then he raised some questions though**
2 **even then; correct?**

3 A. Yeah. I didn't look -- yes, he did, I
4 believe, raise concerns.

5 **Q. Did you address those concerns with him then**
6 **or otherwise?**

7 A. No. I just told him I disagreed with his
8 characterization and that this is pending
9 litigation, and I felt at a disadvantage that I
10 couldn't defend myself in public.

11 **Q. And -- and you consider him to be a**
12 **reputable expert as well?**

13 A. I did until he did this. He actually had
14 some fundamental errors in his analysis, getting
15 formulas wrong. I mean, I believe he might have a
16 difference of opinion, but there's actually,
17 factually incorrect things in it.

18 **Q. What about Professor Epstein? Is he -- is**
19 **he generally a reliable authority?**

20 A. Professor Epstein is a very good theorist.
21 He's not so great when it comes to data, as you've
22 seen from my --

23 **Q. Georgia?**

24 A. Yeah. Georgia case.

25 **Q. Make sure we have the number for that.**

1 A. How come this is not numbered? Did I get
2 mixed in with his -- oh, here, it is, 'cause there's
3 an extra copy.

4 **Q. Ah, I'll take that one back.**

5 **So the Georgia report we're referring to is**
6 **Exhibit 8?**

7 A. Correct.

8 **Q. And that is, in fact, the report you did on**
9 **Georgia congressional and legislative**
10 **re-districting?**

11 A. Correct.

12 **Q. Have you had any second thoughts about**
13 **anything you wrote in this report?**

14 A. No.

15 **Q. I take it from what you said, that you would**
16 **never submit the reports that you've done here to a**
17 **peer reviewed journal for publication?**

18 A. No, because the -- what one's trying to do
19 in a peer review publication and -- and academic
20 research is usually much broader and includes a
21 larger set of analysis.

22 Typically, when I'm asked to do expert
23 witness -- witness work, it's for a very narrow
24 question, partly because, as we've already
25 established, I get paid a fair amount of money for

Page 133

1 this. Burning up client's money is not a
 2 particularly good strategy.
 3 **Q. In terms of getting hired again?**
 4 MR. BRADEN: My clients are strongly in
 5 favor of that.
 6 THE WITNESS: Yeah. And also, but I think
 7 more importantly, the goal is very different. In
 8 academic paper, one is trying to have a dialogue,
 9 and it's for -- it's for a very broad -- much
 10 broader audience, in some sense.
 11 This is purely on a litigation report. It's
 12 on a very narrow question I'm asked to answer. And
 13 that's what I try to bring to bear. It could be in
 14 this, or in this Georgia report, examining the work
 15 of another expert.
 16 BY MR. BURMAN:
 17 **Q. Was there any type of analysis that you**
 18 **considered doing, but decided against doing?**
 19 A. No.
 20 **Q. Okay. Was there any data that you**
 21 **considered finding or asking for, but chose not to?**
 22 A. There's actually one bit of data which I did
 23 get and ask for, which was, in order to calculate
 24 standard of errors, it becomes easier if I allocate
 25 all invalid ballots to every precinct. We didn't in

Page 134

1 fact have that.
 2 I asked Mr. Braden and Mr. Bensen for that
 3 data, and that's why we got one -- the last updated
 4 data set.
 5 **Q. But you don't know whether, you know,**
 6 **whether those are allocated on where the voter**
 7 **actually lives or --**
 8 A. All I know is what's ascribed in the -- in
 9 the Secretary of State data from the county, that
 10 they ascribe it to a precinct. That's all I know.
 11 **Q. They ascribe the ballot to a precinct.**
 12 **You don't know if the voter is actually from**
 13 **the precinct?**
 14 A. That's correct.
 15 **Q. And you don't know if they know where the**
 16 **voter is from?**
 17 A. You'd have to ask them. One hopes that
 18 they'd know where voters live, but --
 19 **Q. I think you've answered this, but just to be**
 20 **clear:**
 21 **Based upon the aggregate data, is it**
 22 **possible in this case to place any bounds, without**
 23 **appealing to anything uncertain or statistical?**
 24 A. I don't quite -- can you actually clarify
 25 what you mean by this so --

Page 135

1 **Q. Probably not.**
 2 **Are you using some deterministic bounds?**
 3 A. No there's no deterministic bounds here.
 4 That's what I thought you were asking about. I
 5 wanted to be fairly clear.
 6 So Gary King's method used deterministic
 7 bounds because they're informative in this case,
 8 under a homogeneity assumption.
 9 **Q. Right.**
 10 A. That is African-Americans -- and highly
 11 African-American precincts -- are like that for
 12 Americans -- and for other precincts.
 13 Here we don't -- we didn't have a ballot
 14 booth in the -- in the state penitentiary. I don't
 15 have informative -- there's not informative
 16 deterministic bounds here.
 17 **Q. Okay.**
 18 A. So the uncertainty comes from the model.
 19 **Q. Okay. So it's more uncertain than in the**
 20 **cases of racial block voting?**
 21 A. No. In the case of racial block voting,
 22 your bounds, your uncertainty comes, both, from the
 23 bounds and from the model.
 24 So they both come to play. Here we just
 25 have a model. Here's a model. That's how you get

Page 136

1 an estimate.
 2 **Q. It seems -- it seems counter-intuitive to me**
 3 **that you have more certainty in -- in this**
 4 **situation, or an equal amount of certainty in this**
 5 **situation, where you don't even have the data that**
 6 **gives you the bounds.**
 7 A. You don't have -- in one sense you don't
 8 have as much information, since we don't have the
 9 bounds.
 10 Here you're actually asking a more specific
 11 question, which is, here's a finite number of
 12 ballots. What would happen if you were to remove
 13 them.
 14 Again, in ecological inference, you're
 15 asking a harder question, which is how do these
 16 people, how -- how did these people -- how did
 17 individual groups vote who are mixed together.
 18 So it's a different -- so -- so -- but
 19 they're both -- but they're modeled -- but my
 20 standard of errors or the confidence intervals are
 21 based on a model, as are Gary King's -- his model
 22 and mine -- both deterministic bounds, which you
 23 might say are -- are without assumption -- true by
 24 accounting. And -- and model information, which is
 25 this homogeneous assumption, which I think I made

34 (Pages 133 to 136)

Page 137

1 clear.

2 **Q. Okay.**

3 A. Let me know if you're not clear on it.

4 **Q. Okay. And you have used Professor King's**

5 **method in your work, from time to time, have you**

6 **not?**

7 A. Yes, I have.

8 **Q. Okay. You don't have -- or I guess I should**

9 **ask: Is.**

10 **It better or worse than what you used here?**

11 A. It asked -- it was designed to ask a

12 different question.

13 **Q. Okay.**

14 A. Related but different.

15 **Q. Would you agree that accepted statistical**

16 **practice is to provide measures of uncertainties of**

17 **estimates?**

18 A. Yes, it is.

19 **Q. Okay.**

20 A. That's why, in fact, I asked for the data

21 that included allocating precinct -- all the

22 invalids -- 'cause that made all the calculations

23 much simpler.

24 **Q. Okay.**

25 A. And I didn't have to appeal to this, suppose

Page 138

1 all the voters who were in King County somewhere

2 else.

3 **Q. And you were in -- and I have to admit I**

4 **haven't read the supplemental supplemental -- but**

5 **anywhere in your reports do you anywhere calculate**

6 **the probability that the decision in the 2004**

7 **election would be reversed if all invalid votes were**

8 **eliminated?**

9 A. Would I? Yes, but we should we should be

10 clear what I estimated.

11 What I estimated -- so what I estimated is

12 what's conditional on this final manual re-count as

13 being the -- being the correct count; what would

14 happen if you were to remove these set of invalid

15 ballots.

16 **Q. The Rossi --**

17 A. The Rossi -- duly noted with the objection

18 of my counsel -- from the -- from the set, what

19 would be the range of the margin of the --

20 Gregoire's margin of victory.

21 And in my latest one, it runs from -- sorry,

22 I don't have these numbers memorized.

23 **Q. That's --**

24 A. Here we go. We're referring to Exhibit 9.

25 That the -- the margin of error -- the point

Page 139

1 estimate is Rossi would have won by approximately

2 115 votes.

3 The confidence interval margin runs from

4 minus 53.89 to minus 175.66, which says that even if

5 there's uncertainty about pulling out these ballots,

6 the margin would have shown Rossi winning, if all

7 that was wrong was pulling out these 1,183 ballots.

8 **Q. Okay. So that assumes that the 1183 is --**

9 **is the accurate data of all invalid ballots?**

10 A. That is correct.

11 **Q. Okay. And what it's measuring is the**

12 **possibility that when you randomly take those out of**

13 **the precinct, in a sense, that you will have some**

14 **random --**

15 A. Yeah --

16 **Q. -- distribution?**

17 A. Yeah. I think I'd like to be a little bit

18 more careful. What we're saying is what we know in

19 the data is the probability you vote for Rossi, say.

20 Now that's not zero one -- it's some range. It's

21 point six, point seven.

22 Now if I take you out -- so with probability

23 point seven, you voted for Rossi; probability point

24 three, you voted for Gregoire. Let's ignore the

25 other cases to make the analysis simpler.

Page 140

1 So that's what's generating these bounds.

2 Like if I'm pulling you out, there's some chance,

3 there's a reasonable chance that an -- an -- an

4 invalid vote might have voted for Rossi, depending

5 on where he lived, she lived.

6 **Q. Okay.**

7 A. And that's what gives you these bounds.

8 **Q. And if you had taken out a whole vote,**

9 **based -- instead of a partial vote, point seven**

10 **Rossi, point three Gregoire, the margin of error**

11 **would increase, wouldn't it?**

12 A. That would actually lead to a biased

13 estimate. That's assuming, again, you have more

14 information than you really have.

15 **Q. Okay. Because you don't know for sure how**

16 **that person voted?**

17 A. Right.

18 **Q. Now, I understand what you measured in terms**

19 **of the measure of uncertainty, but what I want to**

20 **understand is did you anywhere calculate the**

21 **probability that the decision in the election was**

22 **affected by all invalid ballots?**

23 A. Again, all I can tell you is if this subset

24 of ballots were removed, in all likelihood, Rossi

25 would have -- vote count would have been larger than

35 (Pages 137 to 140)



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<p style="text-align: right;">Page 141</p> <p>1 Ms. Gregoire's.</p> <p>2 Q. If you accept the two fundamental</p> <p>3 assumptions that this is a total census and that</p> <p>4 there is a strong correlation between the precinct</p> <p>5 voting propensity and the people that you --</p> <p>6 A. I would say homogeneity assumption.</p> <p>7 Q. Homogeneity assumption.</p> <p>8 A. Yeah.</p> <p>9 Q. Okay.</p> <p>10 A. Correct.</p> <p>11 Q. I'm dangerous when jargon gets in my mouth.</p> <p>12 A. Yeah, this is the problem with experts. We</p> <p>13 have our own language. Lawyers have their own</p> <p>14 language.</p> <p>15 Q. Now, in addendum table D-2A -- so I think</p> <p>16 that would be the first supplemental --</p> <p>17 A. Okay.</p> <p>18 Q. -- report perhaps.</p> <p>19 MR. BRADEN: What's the number? Exhibit</p> <p>20 number?</p> <p>21 MR. BURMAN: 2, I believe.</p> <p>22 MR. BRADEN: Okay.</p> <p>23 MR. BRADEN: This is on the outside. That's</p> <p>24 why I missed it. Here it is. No, that's not it.</p> <p>25 THE WITNESS: Yeah, I was looking for my own</p>	<p style="text-align: right;">Page 143</p> <p>1 to the typos or the footnotes?</p> <p>2 A. I don't think so. I think I added one</p> <p>3 footnote, but I'd have to look to see about this. I</p> <p>4 added, I think, a footnote, I think, about that.</p> <p>5 We're only considering the binomial and what that</p> <p>6 would impact.</p> <p>7 Q. Okay.</p> <p>8 A. And that was an issue raised by Mr. Bensen.</p> <p>9 Q. Okay.</p> <p>10 A. And then there were some honest typos --</p> <p>11 "the the" type thing, but I'd have to go in and</p> <p>12 compare that.</p> <p>13 Q. Okay. The binomial question was raised by</p> <p>14 Mr. Bensen or Mr. McDonald -- Professor McDonald?</p> <p>15 A. Mr. Bensen. It was also -- and I don't</p> <p>16 remember the order of events, if Mr. McDonald raised</p> <p>17 it first, or it's something we actually talked</p> <p>18 about.</p> <p>19 As I -- as I said, to clarify, part of the</p> <p>20 reason is that in a manual re-count, we actually --</p> <p>21 in order to know the full multinomials, we -- we</p> <p>22 need to know the other categories -- if you didn't</p> <p>23 vote for Bennet, Gregoire or Rossi, we actually have</p> <p>24 to construct that. That wasn't how the data</p> <p>25 originally was available.</p>
<p style="text-align: right;">Page 142</p> <p>1 title page --</p> <p>2 MR. BRADEN: Yeah.</p> <p>3 THE WITNESS: -- not the e-mail.</p> <p>4 BY MR. BURMAN:</p> <p>5 Q. Maybe I can simplify it if we go -- let's</p> <p>6 start with Exhibit 1.</p> <p>7 A. Okay.</p> <p>8 Q. Maybe I'll do this in a little bit more</p> <p>9 rigorous fashion, if you don't mind.</p> <p>10 A. Okay. I just would like to find --</p> <p>11 Q. Sure.</p> <p>12 A. I found it.</p> <p>13 Q. Let's get Exhibit 1 and Exhibit 2 in front</p> <p>14 of you.</p> <p>15 Now, Exhibit 1 is the first report that you</p> <p>16 prepared on or about April 15 -- or April 14, I</p> <p>17 guess it says.</p> <p>18 A. Yeah.</p> <p>19 Q. Is that correct?</p> <p>20 A. Yes.</p> <p>21 Q. Okay. And Exhibit 2 is what?</p> <p>22 A. Exhibit 2 is the attached, is the revised</p> <p>23 supplemental and clarifying footnotes -- that's</p> <p>24 the -- that's the e-mail that covers it.</p> <p>25 Q. Okay. And was there any great significance</p>	<p style="text-align: right;">Page 144</p> <p>1 And so that -- so we subsequently figured</p> <p>2 out a way to do that.</p> <p>3 So that's why -- so it's both a data issue</p> <p>4 and -- one that didn't materially change my</p> <p>5 findings. So I thought it was a reasonable way to</p> <p>6 proceed.</p> <p>7 Q. Okay. Now, if you could look on Exhibit 2,</p> <p>8 the supplemental report.</p> <p>9 A. Uh-huh.</p> <p>10 Q. And on page 4, there's "Estimated</p> <p>11 Distribution of Invalid Votes."</p> <p>12 Do you see that?</p> <p>13 A. Yes.</p> <p>14 Q. Now, did you give us some measure of</p> <p>15 statistical uncertainty for that?</p> <p>16 A. Certainly. Underneath -- underneath in the</p> <p>17 tables, underneath is the first -- looking at the</p> <p>18 first one under Gregoire, for felons, the invalid</p> <p>19 vote ballots that were -- that were ascribed to</p> <p>20 felons there were 943 of them.</p> <p>21 The point estimate is 543. Of them,</p> <p>22 approximately point three voted for Gregoire. But</p> <p>23 that range -- that range could have been anywhere</p> <p>24 from 556.6 to 612.</p> <p>25 Q. And -- and what method did you use to</p>

36 (Pages 141 to 144)

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1 calculate that range?

2 A. I used a normal approximation to the -- to
3 the binomial sampling distribution.

4 **Q. Okay. And I take it then, when you did your
5 supplemental supplemental report, you did a
6 polynomial --**

7 A. It's actually called a multinomial.

8 **Q. Multinomial. Okay.**

9 A. There is one other complication of the
10 multinomial.

11 So here there's another bit of
12 information -- is in the last paragraph on page 4 of
13 Exhibit 2. We actually have this range --
14 confidence intervals, range of the difference
15 between the Gregoire vote and Rossi vote, subject to
16 the current 129 vote lead. That's directly
17 estimate-able from this table here.

18 In the case when you go to multinomials,
19 since we're estimating portions that voted for
20 Gregoire, portions that voted for Rossi and the
21 other candidates, they're correlated.

22 So you have to account for that, but that's
23 a minor difference.

24 **Q. What is meant by the statistical bias of an
25 estimate?**

1 A. A biased estimate is one in which -- how to
2 put it simply -- first, is that it's expectation.
3 The expectation of the estimate is not the -- would
4 not converge exactly to the truth.

5 Bias estimates happen all the time. They
6 can be good or bad. I think, in fact, sometimes
7 bias estimates are better than non-biased estimates.
8 There's always a trade off between sampling
9 uncertainty and bias.

10 So sometimes we're willing to trade off a
11 little bit of bias for a lot of -- for reduction
12 in -- in -- in sampling variability, and vice versa.

13 **Q. Did you do anything to measure statistical
14 bias in this project?**

15 A. No. Here bias refers to an estimator, and
16 the -- and the binomial portions are not biased.

17 **Q. Okay. In your profession, what is meant by
18 the validity of an assumption?**

19 A. Again, I -- I think that's -- how is it
20 plausible -- is the assumption plausible. If you
21 were to have an assumption, if you have auxiliary
22 data you can use to test that assumption --

23 **Q. And how would you measure that reliability
24 or validity of an assumption or estimate?**

25 A. I don't know how to do it quantitatively.

1 What you could ask is, if you had other data, you
2 could ask if you were to make other assumptions, how
3 would your estimates change.

4 But that's the only type of way that I'm
5 familiar with asking about the importance of -- of a
6 particular assumption. And in some set ups, it's
7 feasible; and some set ups, it's not.

8 **Q. Okay. What is a convenience sample?**

9 A. I don't know what you mean by "convenience
10 sample."

11 **Q. Okay. That's not a term that you use?**

12 A. I think I've heard about in surveys, but I
13 don't really know the term of art that --
14 convenience sample.

15 **Q. Okay. Assume that, in fact, 400 more
16 invalid ballots were identified.**

17 **How would you factor that into your
18 analysis?**

19 A. If they were ascribed to precincts, just
20 re-run my analysis. That's what I would do.

21 **Q. And anyone that has a copy, an electronic
22 copy of your analysis, could do the same thing?**

23 A. Yes.

24 **Q. Okay.**

25 MR. BRADEN: Not anyone.

1 BY MR. BURMAN:

2 **Q. In the electronic version of your materials
3 that we got, there is a dot R.**

4 A. Yeah. I should point out, I used the dot R
5 for this last analysis.

6 **Q. Okay. But that would be where you would
7 plug this in?**

8 A. It takes the data sets you have and -- and
9 calculates the statistics that are reported here,
10 not as nicely -- in this nicely formatted table.

11 **Q. This -- assume that 400 more invalid ballots
12 were found, is that significant in your analysis of
13 whether the data you were given were reliable?**

14 A. Again, if they -- if they are, in fact,
15 truly 400 invalid ballots, then that would -- that
16 would, potentially. But it would depend on the
17 actual distribution of those 400 -- lead to a change
18 in these estimates.

19 As I -- as I've said, the analysis is
20 conditional on the set I had, and, in large, it
21 perhaps would lead to a different finding, perhaps
22 not.

23 **Q. And this may not be a good question, but in
24 general, as the number of precincts with an invalid
25 ballots goes up, does that increase or decrease the**

37 (Pages 145 to 148)

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Page 149

1 **range of uncertainty?**
 2 A. It's going to increase because -- well,
 3 assuming that this doesn't affect the probabilities,
 4 the faction that went one way or --
 5 Since the variance is basically multiply by
 6 "N" in that precinct where "N" is the number of
 7 invalid ballots, the variance increases. And think
 8 about it. There's just more ways I can arrange four
 9 invalid ballots, versus one invalid ballots.
 10 So the variance, by construction, must
 11 increase.
 12 **Q. The margin of error, the uncertainty**
 13 **increases?**
 14 A. Exactly.
 15 **Q. And in addition, depending upon the**
 16 **distribution of those newly found invalid ballots,**
 17 **it might reduce the -- what I would call it a spread**
 18 **between Rossi and Gregoire?**
 19 A. You could do anything depending -- excuse
 20 me. I'm going to grab a glass of water.
 21 MR. BRADEN: It's almost 12:00. What makes
 22 sense --
 23 MR. BURMAN: Off the record.
 24 (A discussion was held off the record.).
 25 ///

Page 150

1 BY MR. BURMAN:
 2 **Q. Okay. If you could look at Exhibits 11 and**
 3 **12 --**
 4 A. Can I see that? It will be easier if I see
 5 what they were.
 6 **Q. Yeah .**
 7 A. There's 11, and there's 12.
 8 **Q. Now, I take it Exhibit 11 is the McDonald**
 9 **analysis that criticized you, that he then recanted?**
 10 A. He actually recanted both. I mean, I don't
 11 think you have the full e-mails to the list. Maybe
 12 you do. I haven't looked to see.
 13 He -- he wrote one e-mail. Like I said, he
 14 wrote one e-mail on the list. Then I contacted him.
 15 I said, "You're actually inaccurate."
 16 **Q. There is a measure of uncertainty?**
 17 A. There is a measure of uncertainty.
 18 He retracted that.
 19 Then he did a second analysis. Like I say,
 20 he didn't like how I calculated my measure of
 21 uncertainty.
 22 Then I actually wrote down for him exactly
 23 how you do this, and the formula he wrote down is
 24 wrong.
 25 Again -- and it's actually a -- to be fair

Page 151

1 to Michael -- Mr. McDonald -- it was actually a --
 2 typically, when one looks in the stat books, its a
 3 different problem. You're not interested in
 4 removing some subset of -- of -- you're interested
 5 in we don't know what the faction of Gregoire
 6 supporters are in the state, so we take some random
 7 sample -- a poll -- and want to make a prediction of
 8 what percentage of all of Washington potential
 9 voters voted.
 10 And the formula ended up dividing by "N,"
 11 versus multiplying by "N" -- and he just got it
 12 wrong.
 13 **Q. Okay. And is Exhibit 12 where he recants, I**
 14 **think you said, that second criticism?**
 15 A. Yes.
 16 **Q. But then he also raised some questions down**
 17 **there, and there are four that are actually numbered**
 18 **there.**
 19 **Did you address any of those with him or**
 20 **otherwise?**
 21 A. No. I actually felt that I already
 22 compromised how much I'm -- I'm -- I'm willing to
 23 talk to people outside a case.
 24 And so once he got rid of the major
 25 recanting, I, in fact, stopped reading his stuff and

Page 152

1 said I got to worry about this case, and so --
 2 **Q. Okay. Are there any other lists in the**
 3 **social science area that I don't have access to,**
 4 **where there's been a debate about your work?**
 5 A. Not -- I don't read them all. The only
 6 thing I can look at -- it's not a list it's a blog
 7 in 2005 call vote law. But I don't think
 8 anything -- and I'm happy to provide the vote law
 9 address to you or --
 10 **Q. Do you know offhand?**
 11 A. If you go to actually the election law
 12 blog --
 13 MR. BRADEN: It's a link. It's a link out.
 14 I don't think, for whatever it's worth, there's
 15 anything.
 16 THE WITNESS: To be honest with you, I've
 17 been so swamped between this case, my teaching, my
 18 own research and trying to placate my wife, I've had
 19 no time to read the blogs.
 20 BY MR. BURMAN:
 21 **Q. I take it you did take her to Turkey with**
 22 **you --**
 23 A. That was before this case started.
 24 **Q. -- didn't you?**
 25 A. And she took me. That was her business

38 (Pages 149 to 152)



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Page 153

1 trip.

2 **Q. Okay. Have you had any discussions directly**

3 **with any of the Rossi campaign people?**

4 A. No. My only conversations have been with

5 Mr. Braden and Mr. Bensen and --

6 **Q. Did you --**

7 A. -- and a brief conversation, asking --

8 providing discovery materials to the attorney in

9 Washington.

10 **Q. In Seattle?**

11 A. In Seattle.

12 MR. BRADEN: Harry.

13 THE WITNESS: Harry. Was a conversation

14 saying expect a FedEx of my data and --

15 BY MR BURMAN:

16 **Q. Okay.**

17 A. -- print e-mails.

18 **Q. And have you had any discussions with any**

19 **professor, other than Professor McDonald, about your**

20 **work?**

21 A. No.

22 **Q. Okay. Okay. Could you look at Exhibit 10**

23 **and tell us what that is.**

24 A. Exhibit 10 -- can I -- it's a --

25 **Q. I think it's the e-mails you gave us today.**

Page 154

1 A. Okay. Great. Sure. This is the set, since

2 we have actually done work subsequent to my initial

3 discovery, I printed out the current, as of last

4 night, e-mails.

5 Mostly what it is is my sending of the

6 supplemental report, it's my e-mails back and forth

7 to Mr. Bensen and Mr. Braden, mostly with

8 Mr. Bensen. He's letting me know that he was -- he

9 was working on a data set.

10 **Q. And you don't need to read them. I just**

11 **want to make sure that this is, in fact, the**

12 **additional e-mails you brought.**

13 A. That's correct.

14 **Q. Exhibit 10 is?**

15 A. That is correct.

16 **Q. And you haven't printed out for us the**

17 **attachments to e-mails; is that correct?**

18 A. I assumed that you had the attachments, but

19 I'd be happy.

20 **Q. And I'll check that --**

21 MR. BRADEN: And if you don't, the intention

22 was that you had them.

23 THE WITNESS: Yeah. So not trying to hide

24 anything.

25 ///

Page 155

1 BY MR. BURMAN:

2 **Q. Now, your method has been looking at an**

3 **estimate of the effect of excluding illegal votes;**

4 **correct?**

5 A. Of the -- of the set of invalid ballots,

6 yes.

7 **Q. And have you done any analysis of how to**

8 **estimate votes that were not counted and -- and were**

9 **not counted as a result of election official error?**

10 A. No. That is -- my analysis doesn't do that.

11 It takes the baseline. We have my understanding,

12 but there's a certified current count, and the

13 question is, what would happen if you were to remove

14 the subset of invalid ballots.

15 **Q. Okay. If you could look at Exhibit 6.**

16 A. Again, can you just --

17 **Q. Working papers.**

18 A. Sure.

19 **Q. Exhibit 6 is a document I printed off of**

20 **your website.**

21 **Is -- is this a current list of working**

22 **papers?**

23 A. Currently, of working papers that are for

24 public availability, yes.

25 **Q. Okay. And it says last updated at the end**

Page 156

1 **13 September 2004.**

2 **Is there anything else?**

3 A. Not that -- I'm working on about eight

4 projects, and unfortunately, to my co-author's

5 chagrin, none of them are ready for public

6 consumption. About three of them are about a week's

7 worth away, which I just haven't had time to do.

8 **Q. Okay. Are any of the ones you're working on**

9 **that are not listed here particularly relevant to**

10 **the project?**

11 A. There's one, and I should send it to you.

12 It's looking at this re-count data from -- the

13 1 percent re-count data from Los Angeles County.

14 **Q. Okay.**

15 A. And I just haven't had time to -- to read

16 the final version to say okay, but I'll -- I'll

17 provide you with a copy.

18 **Q. Who's your co-author in that?**

19 A. Michael Alvarez, my colleague --

20 **Q. Okay.**

21 A. -- and a grad student of ours, Sarah Hill.

22 MR. BRADEN: You've got to give me a copy of

23 it, too.

24 MR. BURMAN: Yeah. I assume he'll give it

25 to me, three.

39 (Pages 153 to 156)

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Page 157

1 THE WITNESS: I can't -- that paper is a
 2 pure exercise of looking at a bunch of years of the
 3 re-count data.
 4 BY MR. BURMAN:
 5 **Q. If you could look at --**
 6 MR. BRADEN: I'm actually curious for other
 7 reasons.
 8 BY MR. BURMAN:
 9 **Q. -- Exhibit 9, which I believe is the**
 10 **supplemental supplemental?**
 11 A. Yeah. The ones that's dated 5/4?
 12 **Q. Yes.**
 13 **Can you confirm that that is the second**
 14 **supplemental report that you prepared for your**
 15 **counsel?**
 16 A. That's correct.
 17 **Q. Okay. And the only thing this does is to do**
 18 **the multinomial approach?**
 19 A. Yeah. And it does verify one, but as I
 20 told, we actually had to construct the variable for
 21 what fraction of the precinct voted for a county
 22 other than Rossi, Bennett, or -- or --
 23 **Q. Gregoire.**
 24 A. -- Gregoire 'cause -- 'cause how the data
 25 was collected, that information was -- was lost in

Page 158

1 narration. We calculated back -- we had to
 2 construct -- that wasn't available in the original
 3 data.
 4 **Q. And that other -- those other categories are**
 5 **under those votes --**
 6 A. Right.
 7 **Q. -- and write ins?**
 8 A. Correct. It's registered for three
 9 counties.
 10 **Q. And how did you calculate that?**
 11 A. The issue is -- what somehow we didn't
 12 collect was, since it's possible for the vote
 13 tallies to vary a slight bit between the total
 14 vote -- the total number of ballots that were
 15 counted between the re-count, between the initial
 16 canvass and the re-count, but for whatever reason,
 17 outside of King County, that wasn't recorded.
 18 So what we did is we used the total number
 19 of ballots cast in the initial official canvass and
 20 estimated the total number of ballots, and we
 21 verified that with King County, which it's a third
 22 of the precincts.
 23 So the first paragraph is actually showing
 24 there's no difference.
 25 The difference is point zero zero zero six

Page 159

1 percent between the two. And that's -- we actually
 2 had to construct that variable.
 3 So there's a bit talking about that
 4 construction, and then there's -- there's just's
 5 restatement of basically what should be supplemental
 6 to the table -- what's the table in my original
 7 supplemental report.
 8 **Q. And I'm sure you're right, that it doesn't**
 9 **make any real difference, but just to make sure I**
 10 **understand it, you had actual precinct level data**
 11 **for Gregoire, Rossi and Bennett, and then you took**
 12 **the statewide data for the residual votes and**
 13 **assumed that --**
 14 A. No, no, no, no, no.
 15 **Q. Okay.**
 16 A. We know in every precinct -- remember there
 17 were three counts here. So what we have from the
 18 original, from the original canvass in every
 19 precinct, we have the total number of ballots that
 20 were cast -- the total ballots that were cast for
 21 Bennett, for Gregoire, and for Rossi --
 22 **Q. Okay.**
 23 A. -- right? So the difference between the sum
 24 of those and the total ballots cast are the ballots
 25 that were cast --

Page 160

1 **Q. In that precinct?**
 2 A. -- in that precinct.
 3 **Q. Got it. Thank you.**
 4 A. So the problem we know in recounts,
 5 occasionally, we find one or two ballots, so that
 6 number is slightly off. I think it was even
 7 reported in some press.
 8 So my difference is based on the original
 9 canvass from the votes in the manual re-count. So
 10 we're -- we're probably underestimating the
 11 fraction -- sorry -- we're overestimating the number
 12 of invalid ballots.
 13 **Q. Okay.**
 14 A. Because some of those invalids were -- were
 15 found, but the difference, I think as said, is in
 16 the fifth decimal point. That's dwarfed by the
 17 other sources of uncertainty in -- in this --
 18 **Q. And there are some?**
 19 A. As I said, I tried to account for them.
 20 **Q. If you could look at Exhibit 3, I think**
 21 **that's your first supplemental report, before you**
 22 **modified it slightly.**
 23 **Can you confirm that, compare to Exhibit 2?**
 24 A. Yeah. There is -- which one came first?
 25 Probably --

40 (Pages 157 to 160)



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Videoconferencing

Videography

Page 161	Page 163
<p>1 MR. BRADEN: That's what I found. I found 2 this, and I found this other one. The question is 3 what's the difference, I believe? 4 MR. BURMAN: That is correct. 5 THE WITNESS: Yeah. This is --this is the 6 one that was before I added the footnote about the 7 binomial. 8 BY MR. BURMAN: 9 Q. The "this," meaning the Exhibit 3? 10 A. Exhibit 3 is the version before I added 11 comment about the binomial. 12 Q. So Exhibit 3 we should ignore really, in 13 favor of Exhibit 2? 14 A. Right. That is correct. 15 Q. Okay. 16 A. Had some typos and left -- 17 Q. This being Exhibit 3? 18 A. Exhibit 3, correct. 19 Q. Okay. 20 A. Yes. We should be specific. 21 Q. Could you look at Exhibit 4. 22 A. That's the printout? 23 Q. Yeah. 24 A. Okay. 25 Q. What is Exhibit 4?</p>	<p>1 sent Mr. Korrell. 2 Q. Okay. And when you said all your e-mails, 3 it appeared to me there were not any e-mails 4 directly and only with lawyers, but that these were 5 ones where Mr. Bensen was either the main recipient 6 or copied. 7 Was there any sort of selectivity like that 8 in producing e-mails? 9 A. No. I produced any e-mail that I had 10 between either myself and Mr. Bensen or Mr. Braden 11 that was related to this case. 12 Q. Or if you had any with Mr. Korrell or -- 13 A. No. I had none with Mr. Korrell. 14 Q. Okay. 15 A. No. I've spoken to Mr. Korrell exactly 16 once, to tell him that his FedEx package was coming. 17 Q. Okay. 18 MR. BRADEN: Yeah. If you saw how fast I 19 typed, you'd see why there's no e-mails for me. 20 THE WITNESS: Providing me with 21 information -- 22 BY MR. BURMAN: 23 Q. And your questions were satisfied or were 24 answered to your satisfaction? 25 A. Yes.</p>
Page 162	Page 164
<p>1 A. I didn't produce it, so I don't know. 2 Q. Oh, okay. 3 A. It looks like a log of some sort of counting 4 data. ES -- that's the same version I have. Looks 5 like counting up the felons in some structure. 6 Q. So it's not your output? 7 A. No. I don't use -- this looks like it was 8 done by a database -- all my work is done on a 9 computer base called A. 10 Q. Could you look at Exhibit 5, which is 11 labeled, "Information about Jonathan N. Katz"? 12 A. Uh-huh. 13 Q. Does -- are you familiar with that website 14 and that information? 15 A. Yeah. I mean some of it's constructed, some 16 of it I put in, so -- 17 Q. So it's generally accurate, as far as you 18 know? 19 A. Yeah. Looks like a list of working papers 20 they stole from websites and people put up, and then 21 and there's my information which I entered. 22 Q. Okay. And Exhibit 7, the fat one -- 23 A. Uh-huh. 24 Q. -- can you tell us what that is? 25 A. That's all my e-mails prior to the date I</p>	<p>1 MR. BURMAN: Why don't we take a half hour 2 lunch break, if that's okay with everybody? 3 THE WITNESS: Sure. 4 MR. BRADEN: Sure. 5 (Whereupon, at the hour of 11:58 a.m., a 6 luncheon recess was taken, the deposition 7 to be resumed at 12:32 p.m.) 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>

41 (Pages 161 to 164)

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Trial Presentation

Videoconferencing

Videography

Page 165	Page 167
<p>1 SANTA MONICA, CALIFORNIA; THURSDAY, MAY 5, 2005 2 12:32 P.M. 3 4 JONATHAN N. KATZ, 5 having been previously duly sworn, 6 was examined and testified as follows: 7 8 EXAMINATION 9 BY MR. BURMAN: 10 Q. Professor Katz, showing you what's been 11 marked as Exhibit 16, are you familiar with that 12 paper? 13 A. No. 14 Q. Are you familiar with the author? 15 A. Yes. Micah Altman was a graduate student at 16 Caltech. 17 Q. And is he a professor now? 18 A. No, he's not a professor. 19 Q. What -- 20 A. His title is -- is director is director of 21 Harvard, MIT data center. 22 Q. Okay. In general, do you have an opinion as 23 to the quality of his work? 24 A. Again, I haven't read his work since he was 25 a graduate student, so I have no opinion without</p>	<p>1 A. About a year -- well, publishing 2 academics -- about a year before it's out in print. 3 Q. And in the period of time since you wrote 4 it, have you had any second thoughts or discovered 5 any significant errors in it? 6 A. No. 7 (Respondents' Exhibit 19 was marked 8 for identification by the court reporter 9 and is attached hereto.) 10 BY MR. BURMAN: 11 Q. Showing you what's been marked as 12 Exhibit 19, which I understand is also written by a 13 well regarded author. 14 What's Exhibit 19? 15 A. It's an old working paper of mine, 16 "Correcting for Survey Misreports, Using Auxiliary 17 Information." 18 Q. And when you say it's old, is it outdated? 19 A. It's not -- it's not in the formal working 20 papers here. I haven't sent it out to the publisher 21 'cause I want to, in fact, do more work on it and I 22 haven't had time. 23 Q. Is there something in particular you need to 24 correct? 25 A. The statistics is right. It's kind of a</p>
Page 166	Page 168
<p>1 reading it. 2 (Respondents' Exhibit 17 was marked 3 for identification by the court reporter 4 and is attached hereto.) 5 BY MR. BURMAN: 6 Q. Showing you what's been marked as 7 Exhibit 17. 8 Are you familiar with that paper? 9 A. I am not. 10 Q. Do you -- are you familiar with the author? 11 A. I am not. 12 (Respondents' Exhibit 18 was marked 13 for identification by the court reporter 14 and is attached hereto.) 15 BY MR. BURMAN: 16 Q. Okay. Showing you what's been marked as 17 Exhibit 18. 18 Are you familiar with that paper? 19 A. Yes, that paper, I am, and I think that's a 20 very high quality. 21 Q. And same opinion of the author, I think? 22 Is that a paper that you wrote, Exhibit 18? 23 A. Yes. In fact, it's now forthcoming at the 24 Journal of Public Economic Theory. 25 Q. How soon will it come out?</p>	<p>1 dated model, turn-out -- I just sort of -- it was my 2 first -- the example's sort of just a simple 3 example -- wasn't a well thought out turn-out model. 4 Q. Okay. Is there a shorthand title for a 5 better turn-out model? 6 A. No. Oh, no. This paper was written as a 7 statistical exercise, not about turn-out. And I 8 just wanted to bring that up. It's a way outdated 9 version of what the turn-out literature -- which I 10 haven't gone back to look at in a long time. 11 (Respondents' Exhibit 20 was marked 12 for identification by the court reporter 13 and is attached hereto.) 14 BY MR. BURMAN: 15 Q. Okay. Showing you what's been marked as 16 Exhibit 20. 17 Are you familiar with that paper? 18 A. No, I'm not. 19 Q. Okay. I'm sorry. 20 MR. AHEARNE: No problem. 21 BY MR. BURMAN: 22 Q. Do you know Mr. Freedman? 23 A. I know he's a well regarded statistician, 24 but I don't know him personally. 25 Q. Do you have any reason to think this isn't a</p>

42 (Pages 165 to 168)

Page 169

1 **reliable authority in the area it covers?**
 2 A. Again, without reading the paper -- he works
 3 on many areas in statistics so --
 4 **Q. Okay. You say in section one of your**
 5 **supplemental report -- which I believe is Exhibit 2;**
 6 **is that correct?**
 7 A. Exhibit 2 is the first draft. I think you
 8 mean exhibit -- yeah, Exhibit 2, correct. That's
 9 correct.
 10 **Q. Okay. You say:**
 11 **"Given that we use a secret ballot, there's**
 12 **no way to distinguish invalid from valid**
 13 **ballots unless a randomly selected ballot**
 14 **from a given precinct or any other**
 15 **geographic unit must have the same chance**
 16 **of being a vote for the democratic**
 17 **candidate, given the known fraction of**
 18 **democratic vote in the precinct"; correct?**
 19 A. If all you have is the aggregate vote,
 20 that's all you know.
 21 **Q. Do you know whether the invalid ballots you**
 22 **have are randomly selected from the given precinct?**
 23 A. They're not -- you mis- -- they're not a
 24 random sample. They're asking to pull a subset out.
 25 The literature usually puts it out as it's a random

Page 170

1 sample. It's not quite the -- it's a conflicting
 2 and ambiguous use of language.
 3 **Q. Well, you say, and that's "a randomly**
 4 **selected ballot from a given precinct or any other**
 5 **geographic unit must have the same chance of being a**
 6 **vote for the democratic candidate."**
 7 A. This is without -- this is a statement
 8 without any other information. If I take two
 9 ballots. I don't know which one is valid and which
 10 is the invalid, they must have the same probability.
 11 **Q. Okay. So the method you're using is**
 12 **premised on that assumption, but it's -- you're not**
 13 **stating that it's a fact?**
 14 A. Again, I don't quite know what you mean by
 15 that. What I'm willing to say is that we often
 16 think about -- we're saying we're going to pull
 17 these ballots out. I don't know exactly which ones
 18 they are, but it's not random sample since we know
 19 what we're pulling out. We can't identify which of
 20 the ballots goes to which voter.
 21 **Q. Why did you say "randomly selected ballot"**
 22 **here?**
 23 A. I think it was just being here -- I think I
 24 was trying to make it correlate with -- statistical
 25 textbook, what they would say.

Page 171

1 If you repeatedly choose -- you're -- we
 2 don't know -- we cannot tell who the valid, invalid
 3 ballots are, so we are treating them as we had just
 4 pulled them out.
 5 **Q. Are the confidence intervals that you**
 6 **calculated valid if the invalid ballots are not**
 7 **independent and identically distributed like the**
 8 **valid ones?**
 9 A. Well, yeah. If there was correlations that
 10 are -- that would -- that would change the estimates
 11 of the -- of the standard errors.
 12 **Q. And I'm sorry. When you said "Yeah," are**
 13 **you --**
 14 A. If you were to posit they are, there's some
 15 known correlation that would affect the standard of
 16 errors. It could increase or decrease, depending on
 17 the exact form of that correlation.
 18 **Q. So your confidence intervals are based on**
 19 **the assumption that they're independent and**
 20 **identically distributed?**
 21 A. That is correct.
 22 **Q. Okay. And do you have any evidence to**
 23 **support that assumption?**
 24 A. No. For or against it in this data set.
 25 **Q. Okay. So it could improve your case or it**

Page 172

1 **could hurt your case?**
 2 A. Exactly.
 3 **Q. Okay. Do you know of any direct evidence of**
 4 **how felons vote?**
 5 A. We have no -- not as far as I know. The
 6 only evidence we know is the -- the Uggen & Manza
 7 study, which is not direct evidence. It's
 8 estimates. Again -- secret ballots -- it's
 9 estimates.
 10 **Q. If you used alternative socioeconomic or**
 11 **demographic assumptions to guess at how the invalid**
 12 **ballots were distributed, would it affect your**
 13 **results?**
 14 A. Again, if you have -- that would be
 15 additional data which would potentially affect one's
 16 analysis. You could perhaps -- perhaps improve
 17 predictions.
 18 **Q. Are -- are felons in Pierce County more**
 19 **similar to other voters in Pierce County or more**
 20 **similar to felons in other counties?**
 21 A. Again, this analysis will assume they're
 22 similar to other voters in their -- in their
 23 precinct, not in their county.
 24 Whether or not they're similar to other
 25 felons or more similar to other voters, we have no

43 (Pages 169 to 172)



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<p style="text-align: right;">Page 173</p> <p>1 data on.</p> <p>2 Q. Okay. So you don't know whether your -- how</p> <p>3 your vote is determined is -- is determined more by</p> <p>4 your identity as a felon or by the people you live</p> <p>5 next to?</p> <p>6 A. Again, you're asking for a causal statement,</p> <p>7 which is not what -- what I'm producing here.</p> <p>8 You're asking for what's our best estimate of</p> <p>9 invalid felon -- that's not a causal statement.</p> <p>10 Q. Notice how much better the questions are</p> <p>11 when they're written out for me?</p> <p>12 MR. AHEARNE: I also notice that you're</p> <p>13 skipping over most of the questions people have</p> <p>14 written out for you.</p> <p>15 THE WITNESS: He's got to do something in</p> <p>16 trial.</p> <p>17 MR. BURMAN: Exactly. That's going to be a</p> <p>18 potted plant.</p> <p>19 BY MR. BURMAN:</p> <p>20 Q. Let me show you Exhibits 11 and 12 from</p> <p>21 Mr. Gill's deposition.</p> <p>22 A. Okay.</p> <p>23 Q. He identified those as printed out sample</p> <p>24 pages of an Excel version of the data he got from</p> <p>25 Polidata.</p>	<p style="text-align: right;">Page 175</p> <p>1 different categories. Like I say, felon, versus</p> <p>2 non-felon actually, so --</p> <p>3 MR. BURMAN: If you don't mind, I'll let</p> <p>4 Mr. Ahearne ask some questions and check my flight</p> <p>5 schedule.</p> <p>6 THE WITNESS: Works.</p> <p>7 MR. BURMAN: Okay.</p> <p>8 THE WITNESS: Do you want these back</p> <p>9 (indicating)?</p> <p>10 MR. BURMAN: Sure. Thanks.</p> <p>11</p> <p>12 EXAMINATION</p> <p>13 BY MR. AHEARNE:</p> <p>14 Q. Good afternoon, Professor Katz.</p> <p>15 A. Good afternoon.</p> <p>16 Q. My name is Tom Ahearne. I represent the</p> <p>17 respondent Secretary of State, and I'm pretty much</p> <p>18 just going to jump all over the place, going over</p> <p>19 the exhibits that Mr. Berman introduced already and</p> <p>20 follow up on some of his questions.</p> <p>21 First, if I can ask you to please turn to,</p> <p>22 actually, Exhibit 6. It's the working papers</p> <p>23 document.</p> <p>24 A. Yeah. Just trying to find --</p> <p>25 Q. Actually, you can just look at the one</p>
<p style="text-align: right;">Page 174</p> <p>1 A. Very well could be.</p> <p>2 Q. Do you -- I mean, is that basically the same</p> <p>3 data you got from Polidata?</p> <p>4 A. Without comparing this to my data set, I</p> <p>5 have no idea.</p> <p>6 Q. Okay. Do you have -- do you remember any</p> <p>7 other important fields beyond what are reflected in</p> <p>8 Gill Exhibits 11 and 12?</p> <p>9 A. I don't remember all the -- there's actually</p> <p>10 all the votes for -- to be honest with you, I just</p> <p>11 don't know without having looked -- it's got, like,</p> <p>12 25 or 30 variables, and I don't know -- I don't</p> <p>13 remember which -- which ones are there without going</p> <p>14 back and looking at the exact data.</p> <p>15 Q. What were the fields that were important to</p> <p>16 your analysis?</p> <p>17 A. For us it was the -- for me it was the vote</p> <p>18 shares and the manual re-count of -- for Rossi,</p> <p>19 Gregoire, and Bennett, and total votes cast in the</p> <p>20 original canvass -- that's for the supplemental --</p> <p>21 second supplemental report -- number of invalid</p> <p>22 ballots.</p> <p>23 Q. By precinct?</p> <p>24 A. By precinct.</p> <p>25 We also have invalid ballots broken out in</p>	<p style="text-align: right;">Page 176</p> <p>1 Mr. Braden gave you 'cause I have very simple</p> <p>2 questions.</p> <p>3 A. Okay.</p> <p>4 Q. My understanding is there is one other work</p> <p>5 you're going to add to this list?</p> <p>6 A. As I said, this is a -- this list was taken</p> <p>7 from my website.</p> <p>8 Q. Right.</p> <p>9 A. Those are the voting papers I had made</p> <p>10 available for public consumption. Since I actually</p> <p>11 have and am currently working on a project that</p> <p>12 bears directly, or at least, indirectly, I thought</p> <p>13 I'd provide it.</p> <p>14 Q. Okay.</p> <p>15 A. In fairness, I should provide that to</p> <p>16 counsel now.</p> <p>17 Q. Oh, okay. Just so we can represent --</p> <p>18 you'll provide that to Mr. Braden.</p> <p>19 Mr. Braden, you'll then provide it to</p> <p>20 counsel of record?</p> <p>21 MR. BRADEN: Absolutely happy to do it.</p> <p>22 BY MR. AHEARNE:</p> <p>23 Q. Okay. And also, while we're talking about</p> <p>24 things that are being provided, also, you had</p> <p>25 mentioned at some point in your testimony, you</p>

44 (Pages 173 to 176)

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Page 177

1 mentioned the most recent "R" document?
 2 A. This package, computer program, I use is
 3 called "R."
 4 **Q. Okay.**
 5 A. So they're script files, they're computer
 6 language written in a program called "R."
 7 MR. BURMAN: Doesn't stand for Republican?
 8 MR. AHEARNE: No. It's for Rossi. I'm
 9 sorry. Kidding. I'm kidding.
 10 (A discussion was held off the record.)
 11 BY MR. AHEARNE:
 12 **Q. Anyway this is something you can**
 13 **electronically send to us?**
 14 A. Certainly.
 15 **Q. Actually, you'll send it to Mr. Braden.**
 16 **Mr. Braden, you'll send it to us? Is that a**
 17 **"yes"?**
 18 MR. BRADEN: Yes, that's a yes.
 19 BY MR. AHEARNE:
 20 **Q. Okay. If I can ask you to look at**
 21 **Exhibit 7, and unfortunately, you do have to get it**
 22 **in front of you.**
 23 A. That was actually on top. That was a good
 24 find.
 25 **Q. And this is a stack of e-mails that you**

Page 179

1 make sure we have the cleanest data we can have.
 2 **Q. And my questions relate to what is your**
 3 **understanding towards what's the cleanup of what**
 4 **he's doing?**
 5 A. Again, as I said, it's my understanding,
 6 although you should just directly ask Mr. Bensen
 7 that, but cleanup was making sure we reconcile
 8 findings with known aggregates and other ways of
 9 confirming that the data is, in fact, accurate.
 10 **Q. Okay. And how he did or did not confirm the**
 11 **data is accurate is something you should ask**
 12 **Mr. Bensen?**
 13 **So you know nothing about that?**
 14 A. That's correct.
 15 **Q. Okay. Page 10. Another e-mail. And this**
 16 **just says Polidata and it doesn't say Clark.**
 17 **Did you confer which anybody or communicate**
 18 **with anyone other than --**
 19 A. Polidata is a one-person shop.
 20 **Q. Oh, okay.**
 21 A. He just has multiple e-mail addresses. He
 22 says this is the one he uses from his laptop.
 23 **Q. Okay.**
 24 A. But again, you should please confirm that
 25 with Mr. Bensen.

Page 178

1 printed out for production; correct?
 2 A. Yes.
 3 **Q. Okay. If I can ask you to please turn to**
 4 **the document that's labeled a bunch of zeros and**
 5 **then a six at the bottom right hand corner.**
 6 A. Bun of zeros.
 7 **Q. It's B slash KATZ zero, zero, zero, zero,**
 8 **zero, six?**
 9 A. Oh, okay. Correct.
 10 **Q. And it's an e-mail from Polidata, Clark**
 11 **Bensen to you; is that correct?**
 12 A. Yes.
 13 **Q. Okay. And there's a paragraph number two,**
 14 **it says, "I'll be sending data to you over the**
 15 **weekend. Need a bit more time to clean it up and**
 16 **review."**
 17 **And do you see that part?**
 18 A. Yes.
 19 **Q. What was your understanding of the cleanup**
 20 **and review Mr. Bensen was doing to the data?**
 21 A. My understanding is he's got sources -- I'd
 22 only know -- you'd have to ask Mr. Bensen
 23 directly -- that he has sources. He's double
 24 checking the inputs of those sources from county and
 25 precinct records and trying to reconcile them to

Page 180

1 **Q. But my question is, you're the only -- the**
 2 **only person at Polidata you've ever conferred with**
 3 **is Mr. Bensen?**
 4 A. That is correct.
 5 **Q. Okay. It says, "Well, I have not yet had**
 6 **the local folks review the precinct" -- who are the**
 7 **local folks --**
 8 A. I --
 9 **Q. What is your understanding of local folks?**
 10 A. I assume they're -- they're research
 11 assistants or others working in the state of
 12 Washington.
 13 **Q. Okay. You mentioned he's a one-person shop.**
 14 **Does he have a Washington D.C. office or**
 15 **Washington state office? Where he is located?**
 16 A. His home is in Virginia, but I don't know
 17 where Polidata is, in fact, incorporated.
 18 **Q. Okay. Page 16, there's an e-mail that looks**
 19 **like it forwarded to you a website for sound**
 20 **politics dot.com?**
 21 A. Yes. This is a Clark, I'd be interested in
 22 taking a look at it.
 23 He's a political junkie or some sort of
 24 blabber that writes on politics. I wanted to see it
 25 so he sent me the --

45 (Pages 177 to 180)



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Page 181

1 Q. Okay. Is this something you sort of looked
 2 at to get background information on or --
 3 A. It was more of a joke. I said I wanted to
 4 see what someone was saying.
 5 Q. Did you ever look at it?
 6 A. I looked at it once. This is some amateur
 7 trying to do a real job, so I didn't look at it.
 8 Q. Okay. I notice in one of these e-mails to
 9 you -- actually, if you look at page 18 --
 10 A. Sure.
 11 Q. -- near the bottom, there's an e-mail from
 12 you to Mr. Braden and Clark Bensen saying, "Also
 13 when you get a chance, can you please send me the
 14 electronic copies of the briefs in the case."
 15 Do I take it from your testimony earlier,
 16 actually, you never got around to --
 17 A. They sent me a few.
 18 Q. Okay.
 19 MR. BRADEN: I'm glad you didn't ask about
 20 not sending the check. He doesn't care whether I
 21 get paid or not.
 22 MR. BURMAN: It's in the Italian mail.
 23 THE WITNESS: It did. It took two weeks for
 24 a check to get from Washington to L.A. Go figure.
 25 And the postmark -- go figure.

Page 182

1 BY MR. AHEARNE:
 2 Q. Page 23. Another e-mail from Polidata, and
 3 the last line of the first paragraph. "This dataset
 4 was compiled by the campaign folks during the
 5 November-December" -- do you see that?
 6 A. Yes.
 7 Q. Is this data set that was compiled by the
 8 campaign folks in any way related to the data set
 9 that you used?
 10 A. Yes. It looks like -- if you look at this
 11 numbering -- Washington 04SR_EC19 -- I think the
 12 version -- that's the final version we used, was, I
 13 think, version 23.
 14 Q. So is that a "yes"?
 15 A. Yes.
 16 Q. Okay.
 17 A. Well, I presume it to be the earlier version
 18 of the data set that we ultimately used.
 19 Q. Okay. And then the campaign folks that were
 20 referred to here, what was your understanding of who
 21 the campaign folks were?
 22 A. I assume it was Rossi. But again, you can
 23 clarify this with Mr. Bensen.
 24 Q. I'm trying to get your understanding.
 25 You didn't -- did you have any understanding

Page 183

1 one way or the other who the campaign folks were?
 2 A. Only a cursory one.
 3 Q. And your cursory understanding was?
 4 A. It was the Rossi campaign. But I honestly
 5 don't know.
 6 Q. Okay. Page 33. And I'm not going to ask
 7 you about all of these, but there are a couple I
 8 have. It's a bunch of number -- again, it's an
 9 e-mail from Polidata to you, and there's a paragraph
 10 7A that says, "Pierce County was a mess from the
 11 standpoint of matching the date to the geography" --
 12 or "data to the geography."
 13 Do you see that?
 14 A. Yes.
 15 Q. Could you --
 16 A. It's actually -- the mess -- he said he was
 17 having -- reconciling the precinct levels with the
 18 county votes reported by Pierce County.
 19 Q. Okay. So it wasn't a mess to your
 20 understanding?
 21 Your understanding was it wasn't a mess in
 22 terms of votes being in the proper precinct, it was
 23 just the precinct numbers matching the --
 24 A. Again, you'd have to -- this is a level of
 25 analysis that I don't -- Clark and Mr. Bensen and I

Page 184

1 have -- have a division of labor. He deals with
 2 getting the data right. I deal with doing the
 3 analysis of this.
 4 Q. Okay.
 5 A. So I took it, made the alternations, and he
 6 cleans it up, so --
 7 Q. Okay. And on number eight, when he states,
 8 "I will revisit the issue of rolling out the
 9 precinct level results for keying to the polling
 10 places," what does that mean?
 11 A. As I understand it, again, you -- Mr. Bensen
 12 would be a better authoritative source on this.
 13 There are both -- we have some -- for some
 14 counties, we have both ballot -- precinct level,
 15 which is usually the lowest level of aggregation --
 16 there might be multiple polling places for a
 17 precinct.
 18 And so what he was doing was using that as a
 19 check to verify across the data.
 20 Q. Okay. To make sure that the numbers
 21 matched?
 22 A. Yes. That's my understanding, but again,
 23 you should feel free to ask.
 24 Q. That's all I'm trying to find out. Making
 25 sure I'm clear on your understanding.

46 (Pages 181 to 184)



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Page 185

1 Next page, page 34. Bottom paragraph of
 2 text that begins with "Deceased Individuals."
 3 Do you see that?
 4 A. I'm sorry. You're at 34? We're on 34.
 5 Q. Page 34, bottom paragraph, starts "The
 6 research process."
 7 A. Right.
 8 Q. And then third line down "deceased
 9 individuals"?
 10 A. Yes.
 11 Q. And then there's a sentence: "We have also
 12 relied on tips and research from various third
 13 parties."
 14 Did you have any conversations with Polidata
 15 about what those tips or who those third parties
 16 were?
 17 A. No.
 18 Q. Okay. Last question on Exhibit 7, page 49.
 19 And you -- you covered this in part with Mr. Burman,
 20 but I just want to see if this refreshes your memory
 21 at all.
 22 On number three, again, it's an e-mail from
 23 Polidata to you. Paragraph number three says, as
 24 you can see from the attached King_EDO7, the
 25 overwhelming percentage of invalid votes were from

Page 186

1 King County."
 2 Do you see that?
 3 A. Yes.
 4 MR. BRADEN: I -- I think that says "were in
 5 King County."
 6 MR. AHEARNE: Okay. I'm sorry. Were in
 7 King County. As I'm getting older, my eyes are
 8 getting worse. It really stinks.
 9 BY MR. AHEARNE:
 10 Q. Does this line 3 refresh your memory about
 11 the overwhelming percentage of votes being in
 12 King County, or why that was?
 13 A. No. I think he was just referring, if you
 14 turn to page 50 of Exhibit 7 --
 15 Q. Yes, sir.
 16 A. -- this is actually the printout of the
 17 table he sent me. He was just referring to the --
 18 these numbers, where he totalled up -- he just did a
 19 simple summary, added up the number of invalid votes
 20 in the data, and I think this is all.
 21 Q. And there were no discussions between you
 22 and Polidata, at least as to why the overwhelming
 23 number of invalid votes were in King County?
 24 A. That's correct.
 25 Q. Okay. Exhibit Number 9 --

Page 187

1 A. Can you give me one second to put this all
 2 together so we have a nice record of it?
 3 Q. Yes. Yes, sir.
 4 A. Exhibit 9.
 5 Q. I want to make sure I understood your
 6 testimony, because I think I messed it up.
 7 Exhibit 9 is where you're accounting for
 8 then that the multinomial, as opposed to the
 9 binomial --
 10 A. That is the technical difference.
 11 Q. All right. And I thought you said that
 12 Exhibit 9 was based on the machine re-count numbers,
 13 rather than the manual re-count numbers; is that
 14 right?
 15 A. No, no, no.
 16 Q. Okay.
 17 A. You misunderstood or misheard, which either
 18 one is possible.
 19 So for the data set that we have -- we have
 20 the actual ballot counts, ballot numbers for
 21 Bennett, Rossi, and Gregoire for all three
 22 counties -- like for every person.
 23 Q. Right.
 24 A. What we don't have in order to calculate the
 25 residual category -- people who either voted for

Page 188

1 write-in, whose ballot was not otherwise recorded --
 2 Q. Right.
 3 A. -- purposely or not, we need the total
 4 number of ballots cast.
 5 It turns out the data for this was not
 6 selected, except in King County. All we have is the
 7 original canvass, the total number of ballots that
 8 were cast.
 9 And so what we use to look for an estimate
 10 of the residual votes, the votes other than the top
 11 three, the ones actually listed on the ballot --
 12 Q. For example, people who didn't vote for
 13 governor at all?
 14 A. Exactly.
 15 Q. Okay.
 16 A. Exactly. And we subtracted out the manual
 17 recount totals. That's -- that's obviously not
 18 totally correct because we usually add -- there's a
 19 possibility you add a couple ballots on a
 20 re-count -- and it's typically small.
 21 What we could do in this report, however, is
 22 because we actually know the exact number for
 23 King County, which is a third of the data, we could
 24 actually verify, and that was what we -- I was
 25 referring to before.

47 (Pages 185 to 188)



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Page 189

1 **Q. Okay. So I'm clear, the original canvass**
 2 **you're talking about is the very first count, not**
 3 **the machinery count, not the hand count, but the**
 4 **very first --**
 5 A. That's correct. The original canvass is
 6 done on election night and election morning.
 7 **Q. Okay. Exhibit 10.**
 8 A. What's -- can you show me -- oh, I just
 9 found it.
 10 **Q. Yeah, if I recall correctly, these are the**
 11 **e-mails you produced this morning --**
 12 A. Correct.
 13 **Q. -- of the most up-to-date ones.**
 14 **If I can ask you to turn to let me see.**
 15 **They're not numbered but --**
 16 A. Yeah. They're not numbered. Sorry about
 17 that.
 18 **Q. Oh, no, no, no, no.**
 19 **Third to the last page. An e-mail from**
 20 **Polidata.**
 21 A. Can you read the date just so we can --
 22 **Q. Sure. May 3.**
 23 A. Yeah. May 3. Starts, "One thing I did
 24 notice in another review" --
 25 **Q. Yes.**

Page 190

1 A. -- "small problem in Pierce County.
 2 **Q. Yes, sir.**
 3 **Third paragraph down, I've attached a quick**
 4 **scattergram...In these precincts," and then "In**
 5 **general, the GOP percent and the poll precinct was**
 6 **somewhat lower than the GOP precincts" -- do you see**
 7 **that?**
 8 A. Yes.
 9 **Q. What -- what's that talking about, and does**
 10 **that -- is that relevant at all to your --**
 11 A. It's ten -- on a scale of third order of
 12 fact -- it was just -- it turns out for Pierce
 13 County, since, as you might be well aware, some
 14 large faction of voters vote by mail, by absentee,
 15 or some other way in the polls.
 16 It turns out in Pierce County we were able
 17 to differentiate that. And the question was we used
 18 the numbers for poll work in Pierce County for the
 19 faction voting for the candidates in the polls, not
 20 in the mail absentees.
 21 And so the question was did that matter, and
 22 he was trying to show me the differences are not --
 23 they're basely along a diagonal -- mail -- by the
 24 mail -- in the mail precincts, as opposed to the
 25 poll precincts.

Page 191

1 **Q. Okay.**
 2 A. Is that clear?
 3 **Q. Yes. Okay. Now, when -- now, I'm going to**
 4 **try to follow up with some points with Mr. Burman's**
 5 **questioning.**
 6 **Early on there was a talk about the**
 7 **homogeneity assumption, and I think you sometimes**
 8 **called it the interchangeability assumption; is that**
 9 **correct?**
 10 A. Yes. Homogeneity and interchangeability.
 11 **Q. Okay. And I've got several follow ups on**
 12 **this. Of course, there was a long discussion that**
 13 **involved that. One was that the Uggen & Manza**
 14 **analysis show that your homogeneity assumption, that**
 15 **felons vote like non-felons was actually a**
 16 **conservative assumption?**
 17 A. Yes. So if you look for my estimate in the
 18 second supplemental -- I'm estimating on average,
 19 about 60 percent, 60 percent of felons were, are
 20 voting for Democratic -- Democratic candidate
 21 Gregoire.
 22 If you look at the range of the Manza &
 23 Uggen paper, they, in fact, find that felons are
 24 voting for Democratic candidates in presidential or
 25 senate elections between 70 percent and 85 percent,

Page 192

1 depending. So we're a good ten percentage points
 2 below their estimate.
 3 **Q. Okay. And other than -- and I just want to**
 4 **make sure I've got all the information here.**
 5 **Other than the Uggen & Manza analysis you**
 6 **referred to, is there anything else that confirms**
 7 **your homogeneity assumption on felons voting like**
 8 **non-felons?**
 9 A. No. I know of no other study that -- that's
 10 to this point.
 11 **Q. Okay. And to make sure I understand**
 12 **everything you considered, did you look at any**
 13 **factor, other than the fact that the voter was a**
 14 **felon in which precinct his or her vote was counted**
 15 **in?**
 16 A. Well we -- let me be clear on this. We
 17 looked for all invalid ballots.
 18 **Q. Yes.**
 19 A. For the subanalysis, looking at the felons,
 20 that's all the information we had. We had the
 21 number of felons in a given precinct and the voting
 22 behavior of the precinct.
 23 **Q. Okay. And is that true of the other invalid**
 24 **votes as well?**
 25 **You had the fact that there was an invalid**

48 (Pages 189 to 192)



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1 **vote and then where it was voted, and that was --**
 2 A. And the -- and the voting behavior of the
 3 precinct.
 4 **Q. Of the precinct?**
 5 A. Correct. Well, it's --
 6 **Q. Those are the three --**
 7 A. It's a bit more than three. Residual
 8 category, total number of -- total number of people
 9 in the precinct, total invalid ballot in the
 10 precinct.
 11 And -- and then actually, we break down the
 12 ballots by multiple types, so I can actually tell
 13 you about that.
 14 **Q. Right.**
 15 **And the multiple types are felons,**
 16 **provisional ballots, improperly counted, deceased --**
 17 A. Double -- and people who double voted within
 18 the state of Washington, 'cause they voted -
 19 **Q. In other states?**
 20 A. Yes, that is correct.
 21 **Q. Okay. Okay. Would it be correct to say --**
 22 **and I'm not trying to put words in your mouth so**
 23 **correct me if I'm wrong -- would it be correct to**
 24 **say in your analysis whether the invalid vote is**
 25 **from a felon or non-felon is irrelevant? Your**

1 the end of the day, all we care about is the sort of
 2 effect on the margin of victory -- that is correct.
 3 But since we actually know something. Since
 4 we -- we -- that difference between felon, versus
 5 non -- non -- non-felon invalid ballots is useful
 6 because we actually had some confirmatory effect.
 7 Someone has actually gone out and studied felon
 8 voting behavior, so we can say how does that compare
 9 to that.
 10 **Q. That's Uggen & Manza?**
 11 A. Yeah.
 12 **Q. But as far as what you were doing, did it**
 13 **matter to you whether those 1,100 invalid votes that**
 14 **the mathematical calculations you're doing, does it**
 15 **matter whether it's invalid 'cause it's a felon or**
 16 **double voter or non-citizen voter?**
 17 A. As long as you're checking -- for the bottom
 18 line, which seems to be the center of this
 19 discussion, no.
 20 For the margins, what matters is how you
 21 allocate all of the 1,183 or -63 invalid ballots.
 22 Whether or not they're felon or non-felon is -- is
 23 not key. I broke them out only because there's an
 24 interest. It's sort of one bit of independent
 25 checking that our numbers don't seem too far off.

1 analysis is if we take 1,100 -- or whatever the
 2 number is -- 1,100 votes out of the election, your
 3 report estimates who those 1,100 votes were for?
 4 A. That's -- it's not entirely incorrect, but
 5 it's not exactly precise enough.
 6 **Q. Okay. Correct me.**
 7 A. So there might be a different geographical
 8 distribution of where these felons voted, as where
 9 these other types of invalids voted. It's not
 10 the -- the analysis doesn't --
 11 **Q. In the precinct --**
 12 A. So in so far as their geographical
 13 differences, where non-felon invalid ballots are,
 14 versus where felon ballots are, that would lead to a
 15 different estimate to the number of them who voted
 16 for Gregoire say, versus Rossi, versus Bennett,
 17 versus a non-ballot.
 18 **Q. So if I understand it then correctly, the**
 19 **factor that you looked -- the factor that's**
 20 **positive -- or strike that.**
 21 **If I understand it, the factor you look at**
 22 **is that the ballot is invalid, and whether it's**
 23 **invalid because it's a felon or a double vote or an**
 24 **improperly counted provisional is irrelevant?**
 25 A. No. Again, for the overall analysis -- at

1 **Q. Okay. You mentioned also, in part of this**
 2 **whole line of discussion that Mr. Burman brought up,**
 3 **that there are factors that correlate with voting**
 4 **behavior.**
 5 **What kind of factors were you talking about**
 6 **that correlate with voting behavior?**
 7 A. Depends what you mean. If all you want to
 8 do is predict from any given data set -- we know
 9 from survey work, say, race often correlates with
 10 voting behavior; income correlates with voting
 11 behavior; partisanship, not surprisingly, correlates
 12 with voting behavior.
 13 So it depends on what data is available.
 14 So if -- what if I want to predict someone's
 15 vote. Does it matter that so and so is Black, if
 16 you made them White? You'd ask -- that's a
 17 different question. That's what you mean by
 18 correlate. There's individual characteristics that
 19 make us different, and which might lead us to
 20 predict if you had that information, that you might
 21 vote differently.
 22 **Q. Okay. But the kinds of factors you are**
 23 **referring to were race, gender, income level,**
 24 **political affiliation.**
 25 A. Political ideology. Generally, I mean. But

49 (Pages 193 to 196)



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Page 197

1 again, depends on what one's trying to do. But
 2 those would be good predictors of voting behavior.
 3 **Q. Okay. And oftentimes, in your testimony,**
 4 **you refer to the information available or the data**
 5 **available.**
 6 **Did you do any search for data, other than**
 7 **taking what Polidata gave you?**
 8 A. I think, as I said, but it's worth
 9 repeating, I'd, in fact, asked for some additional
 10 data which was, for example, that they had not
 11 originally allocated all the invalid votes to
 12 precincts, only the felon votes, and we had better
 13 data for King County.
 14 **Q. Right.**
 15 A. One of the things that Mr. Bensen spent his
 16 time doing was providing that data, the type we were
 17 looking at earlier, that would require us to have a
 18 lot more information about these invalid voters.
 19 But that's not sufficient to do the analysis because
 20 you'd have to know how that relates in Washington
 21 politics.
 22 **Q. I guess what I'm trying to get at is you**
 23 **keep referring to the data that's available, and I**
 24 **want to make sure the data that was made available**
 25 **to you from Polidata or data that you -- you went**

Page 198

1 **out and searched and couldn't find it anywhere else?**
 2 A. Again, I was provided with data. I asked
 3 Polidata for additional data. I -- I could think
 4 hypothetically, if budgets and information were
 5 free, I might like to have -- and some of them that
 6 you could think about having.
 7 So I don't quite -- so the data I have is
 8 the data that was provided to me that I requested
 9 from Polidata. That's the data I have, and --
 10 **Q. Right.**
 11 A. -- that's the data I based the analysis on.
 12 **Q. Right. And I understand your analysis is**
 13 **based on the data you have.**
 14 **My point is, throughout your testimony, you**
 15 **sometimes say, "Well, based on the data that's**
 16 **available" --**
 17 A. I'm sorry.
 18 **Q. -- and I want to make it clear, when you say**
 19 **"the data that's available," you meant the data that**
 20 **you had, as opposed to the data that actually is**
 21 **available out in the, you know, in the country or**
 22 **the state, if you had unlimited resources,**
 23 **et cetera?**
 24 A. And yeah -- and some of it, I don't think
 25 is -- but you might like to have. That conjecture

Page 199

1 of what you can actually -- reliable data you can
 2 get on actual voting behavior is pretty much
 3 precinct level returns and census data. More than
 4 that, there's data estimate problems.
 5 But yeah, if I had infinite time and
 6 infinite money, I might be able to think of other
 7 things I might like to look at.
 8 **Q. We're going round and about this, but when**
 9 **your testimony states that you relied on the data**
 10 **that's available, did you mean the data -- the data**
 11 **set you were given?**
 12 A. It was the data set provided by Polidata.
 13 And my take is that is -- that is a reliable and
 14 useful piece of information on it so --
 15 **Q. Okay. And Mr. Burman then asked you a bunch**
 16 **of questions, like, can you get more individualized**
 17 **data on felons, and stuff like that, and you said**
 18 **something along the lines of when you were**
 19 **questioned, whether that data would be -- whether**
 20 **you would believe that data.**
 21 A. No. Not under demographics. Under
 22 demographics, I do think that we can, at some level
 23 of accuracy, guess.
 24 What we need to know, not just the
 25 demographics, we need to know about how demographic

Page 200

1 characteristics relate to felons' voting behavior.
 2 So you have to, at some level, asks how the felons
 3 voted directly or indirectly. But -- and I worry
 4 about that latter bit of information, how easily
 5 reliably, you can gather that.
 6 **Q. Okay. A little later you were asked --**
 7 **there was a short discussion about exit poll, and**
 8 **you said something along the lines of how it's**
 9 **complicated. One of the complications is poll place**
 10 **voters tend to be different than absentee voters and**
 11 **need to be factored in.**
 12 A. Yes.
 13 **Q. What did you mean by that?**
 14 A. So -- so let me try to back up a little bit.
 15 So usually, when we think about analyzing a survey,
 16 what you see a lot in the paper, you have a randomly
 17 selected sample. We dial 1,500 homes in the
 18 United States, and we ask them, "What do you think
 19 of President Bush?", or "What do you think of
 20 Senator Kerry?"
 21 And we get some sample, you know, and we can
 22 make inferences directly.
 23 What you do in exit polling, because exit
 24 polling is expensive and difficult, is you don't
 25 actually do a random sampling. You actually choose

50 (Pages 197 to 200)



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1 different locations because you think it's probative
2 or it's useful getting information out, predicting
3 election outcome.

4 So it's not a random sampling. There's a
5 lot of work to go between the steps of getting a raw
6 exit poll sample, and then making a statement about
7 a general population. Because income level was
8 designed to predict election day results in
9 combination with historical election results,
10 demographic characteristics.

11 That was my only concern, was that you --
12 there's a lot of steps to go between an exit poll
13 and a prediction or belief about the election
14 outcome.

15 And a lot -- and the level of uncertainty is
16 very high. That was the problem we had in the 2004
17 general election, that the exit poll around the --
18 that got shown on the web shows Kerry's ahead. But
19 then he loses.

20 And the answer is, was because people didn't
21 have all the information they needed to analyze
22 that. And the difference in vote was too narrow for
23 the exit poll to have enough resolution to determine
24 whether it was President Bush ahead by 51 percent or
25 Senator Kerry ahead by 51 percent in a given

1 location.

2 **Q. Okay. In your experience, is there a**
3 **difference between the way absentee voters vote and**
4 **poll voters vote?**

5 A. I -- I personally have not done systematic
6 studies of it. There are some, I believe -- well,
7 I'd have to go back and check and do the research.
8 There's some concern in some states.

9 Absentees are sometimes more Republican,
10 sometimes more affluent, but that may not be the
11 case. I'd have to do some studying. In Washington,
12 which has quite extensive mail --

13 **Q. Right.**

14 A. -- extensive mail absentee votes. That's a
15 fact we could check.

16 **Q. Okay. There was also some discussion about**
17 **selective abstention.**

18 A. So selective --

19 **Q. I'm not asking -- do you just generally**
20 **recall we were talking about selective abstention**
21 **and --**

22 A. Correct.

23 **Q. I just want to make sure where you are.**

24 **Second supplement report, Exhibit 9, is to**
25 **take account for the selective abstention, people**

1 **who didn't vote for anybody for governor, but did**
2 **vote for others?**

3 A. Yeah. But just, I want to clarify it. It's
4 actually anyone whose vote was not recorded. It
5 could not have been recorded because they voted for
6 a write in. It could have not been recorded because
7 they didn't vote, they voluntarily chose not to vote
8 on the race. It could not have been recorded
9 because they didn't properly mark their ballot --
10 you know, the famous check didn't go through. It
11 could be because they were mistaken and voted for
12 two candidates for governor.

13 **Q. Right.**

14 A. So I can't distinguish on any of those
15 categories.

16 **Q. Right.**

17 A. So there was no registered vote for -- for
18 one of the three candidates on the ballot.

19 **Q. What I'm trying to get at is this: The**
20 **whole selective abstention discussion is this,**
21 **you're taking care of that in your second**
22 **supplemental report, Exhibit 9?**

23 A. That is correct.

24 **Q. To flaunt my ignorance, you talked about**
25 **Gary Jacobson?**

1 A. Yes.

2 **Q. Who is he?**

3 A. Gary Jacobson is a professor of political
4 science at University of California, San Diego.
5 He's considered one of the leading experts in the
6 United States on congressional elections.

7 **Q. Okay. You also noted that you had worked**
8 **with Clark Bensen on some other cases.**
9 **What other cases were those?**

10 A. Mark, you might have to refresh my memory.
11 We worked on Georgia. We worked on New Mexico
12 State, distributing. We worked on Maryland.
13 Colorado, although I won't really count that -- I
14 put in a placeholder at work, and then the case
15 evaporated. We didn't have to do any work on it,
16 although I was paid a token amount for my time.

17 So that is -- that all the cases we worked
18 on together? I've only -- I've worked on other
19 cases, but with those -- those are the cases with --

20 MR. BRADEN: I think that's right.

21 THE WITNESS: If I go back to my office,

22 I --

23 BY MR. AHEARNE:

24 **Q. No, no, no. And I'm not asking Mr. Braden's**
25 **testimony. I'm just trying to get a feel for the**

51 (Pages 201 to 204)

1 other cases you've worked on.

2 A. No. I've worked with other attorneys in
3 cases in Texas, and I've done a number of cases in
4 California, Missouri, Arizona, including -- and
5 those cases, in fact, I worked for, ostensibly, the
6 Democratic party, one form or other.

7 **Q. Ostensibly democratic? You have questions
8 about their true lineage?**

9 A. Yes. I get hired by law firms. I don't get
10 hired by individual candidates and so --

11 **Q. Okay.**

12 A. So the RNC or DNC doesn't write my check.
13 And I don't really care where they're getting paid
14 from. That's not my concern.

15 **Q. And as part of your preparing this report
16 and your testimony for this case, did you examine or
17 study any other election contested cases?**

18 A. Cases? I don't know -- no, there are no
19 other cases I examined. As I said, I did a little
20 bit of looking around to other statewide -- to look
21 to see how close the race would be, and that was
22 looking at around elections, both within Washington
23 and across the country.

24 But generally, for my analysis I don't look
25 at cases. I don't look at legal cases.

1 whether this binomial, multinomial workhorse has
2 been used in election cases?

3 A. Again, I did not do an exhaustive search.

4 **Q. Throughout your testimony, also
5 occasionally, you would say something along the
6 lines of Rossi probably won, or in all likelihood
7 had won.**

8 I guess my question is: Is it your
9 testimony that Rossi clearly won, if you exclude all
10 the invalid votes in the state of Washington?

11 A. No. I like to be very -- what we can do is,
12 given conventional levels of confidence, if all
13 these ballots were removed, then Rossi would have
14 likely won.

15 There's -- there's not a -- but your
16 statement there was much stronger -- state of --
17 not -- that's not consistent with the data we have,
18 for which that would be true.

19 **Q. Would you state with a reasonable degree of
20 statistical certainty that Rossi won, if you exclude
21 all the invalid votes in the state of Washington?**

22 A. No. All the invalid votes in the sample, in
23 the subset that we have.

24 **Q. When you say "the subset," you mean the data
25 you were provided by Polidata?**

1 **Q. Okay. How about any other election contest
2 situations?**

3 A. None, no.

4 **Q. Did you look at any other or any past
5 re-count situations, other than -- I guess this, the
6 New Hampshire --**

7 A. Right. And my own general knowledge of
8 having observed the 1 percent manual re-count, which
9 are required by California law.

10 **Q. And then in part of preparing of your
11 testimony, did you examine or study whether any
12 proportional reduction analysis has been used in any
13 other situation?**

14 A. Again, in a legal case, I have no knowledge
15 of that. So factual questions, I won't go out and
16 look at.

17 **Q. Right.**

18 A. It's just an application of the binomial or
19 multinomial model, and that gets used all the time.
20 And it happens here where it's also used in other
21 studies, and it's a very -- it's a workhorse. It's
22 one of the first things we teach students in
23 statistics.

24 **Q. And are you aware, or is part of your
25 testimony, preparing your testimony, did you look at**

1 A. Correct. And there was no issue in the --
2 so this was the only issue for the election contest.

3 **Q. Okay. Yeah. I take it you reviewed and
4 relied upon several documents in forming the basis
5 for your opinions; correct?**

6 A. Yeah.

7 **Q. Okay.**

8 A. You're -- we have some of them here.

9 **Q. To your knowledge though, are there any
10 documents that have not been produced that you
11 relied upon?**

12 A. No.

13 MR. AHEARNE: Okay. Thank you.

14 THE WITNESS: Thank you.

15
16 FURTHER EXAMINATION

17 BY MR. BURMAN:

18 **Q. I have a few follow-up questions, but I
19 promise I will get done quickly.**

20 You were just asked a question about
21 estimating the possibility of -- that eliminating
22 all the invalid ballot would change things such that
23 Rossi would be elected correct.

24 A. That was the last question, or one of the
25 last questions.

52 (Pages 205 to 208)

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1 **Q. And one of the conditions you put on this**
2 **was assuming this data set is accurate; correct?**

3 A. Well, again, it's finding what's conditional
4 on this subset of invalid ballots and the data we
5 have at hand, this is our best predictor -- this is
6 our best estimate of that.

7 **Q. Right.**

8 **And it's also assuming that the precinct**
9 **proportionality model fits the real world; correct?**

10 A. Right. This is all conditional on the
11 model, the data -- leads to our conclusions.

12 **Q. Now, and -- and I think you've said the**
13 **goodness of that fit is something that's not**
14 **testable here?**

15 A. It's potentially testable if you have other
16 data. I don't have that data, but potentially, it's
17 testable.

18 **Q. In the Uggen & Manza paper, did you look to**
19 **see whether they did an analysis of the goodness of**
20 **fit of their assumption?**

21 A. Well, they did -- sort of they did -- what
22 they did -- they had a very complicated estimate of
23 what they had to do. So what they did is a fit and
24 model to the national election study data, which
25 told them how various observable demographical

1 characteristics lead to vote choice.

2 They also used Census Bureau studies that
3 lead them to fit a model about how demographic
4 characteristics related to turnout probabilities.

5 And then taking those two numbers together,
6 they figured out an estimate, given a sample of
7 felons that was made available by the Department of
8 Justice of their demographic characteristics,
9 punched out by the state, with some recidivism --
10 'cause you have to worry about recidivism and death
11 and the like -- to get an estimate. They had one
12 direct piece of evidence. It wasn't on voter
13 behavior. It was on voter intention. And I forget
14 the --

15 **Q. Was it the national study?**

16 A. Yeah. This national study -- tracked them
17 even after they had been convicted of felony and
18 asked them follow-up questions about their -- I
19 don't remember directly about their intentions, but
20 it was some comparisons. They had some independent
21 data in that case.

22 **Q. Okay. Let me show you what has been marked**
23 **as Exhibit 6 to Professor Gill's deposition. It's**
24 **an appendix, and as part of that is Appendix Table C**
25 **to the Uggen & Manza study.**

1 A. Uh-huh.

2 **Q. Is that the closest thing they provide to**
3 **some sort of goodness of fit analysis?**

4 A. This isn't a goodness of fit analysis. What
5 this is saying, what this table is, is a logistic
6 regression. It's telling you how particular
7 covariants, say, for example, is a respondent Black?
8 Do the -- how many years of education they have.
9 Are they male? Are they married? How does that
10 correlate in their sample?

11 I assume this is from the national election
12 study -- the turnout analysis is from the current
13 population survey on the probability of turning out
14 to vote -- and on the presidential analysis of
15 whether or not they voted for the Democratic
16 candidate in the national election study.

17 **Q. And --**

18 A. So it's not a goodness of fit.

19 **Q. But it's true, isn't it, that the only**
20 **demographic attribute that they looked at that was**
21 **consistently correlated to those elections was race**
22 **equals Black?**

23 A. No. Well, education also is significant --
24 oh, no, sorry. And we're looking at -- which
25 analysis are we looking at? Presidential voting

1 analysis or turnout?

2 **Q. Presidential voting analysis.**

3 A. Right. So that's consistent across all the
4 years. They didn't poll across any years -- it
5 looks like -- no, income has except for all but one
6 year, has significant impact.

7 **Q. Okay.**

8 A. And in fact, if you were to do the joint
9 test of these things, you'd find that income has
10 a --

11 **Q. Okay.**

12 A. Although, because income and education are
13 very highly correlated, so while they might -- and
14 they didn't provide enough data for me to provide
15 you that, they might be jointly significant. And
16 there's just not enough information in this table to
17 make that finding.

18 **Q. Okay. Are you -- do you know whether the**
19 **literature shows whether marginalized voters are**
20 **most likely to vote for a third party candidate?**

21 A. I don't know of any definitive study that I
22 could be able to cite and say I thought that was
23 right.

24 **Q. Does that sound like a reasonable**
25 **assumption?**

Page 213

1 A. It -- it seems plausible to me, but I would
 2 want to look at -- in principle, that's a verifiable
 3 question, so I would like to look at a study --
 4 who's done the data.
 5 **Q. Are you aware of any analysis of the extent**
 6 **to which ex-felons are more likely than the general**
 7 **population to be marginalized voters?**
 8 A. No, again.
 9 **Q. Okay. You mentioned on the -- on the**
 10 **Democratic side of the lawyers, you worked with**
 11 **Jenner and Block.**
 12 **Are there any other law firms besides Jenner**
 13 **and Block that you've worked with, when the ultimate**
 14 **client was Democratic candidate or party?**
 15 A. Sure. I work with Glenn, Coach, Hanser &
 16 Purcell.
 17 **Q. Where's --**
 18 A. It's a Sacramento based firm.
 19 **Q. Okay.**
 20 A. It's an appellate firm. They represent --
 21 worked for them in cases where they were
 22 representing the Democrats in state.
 23 **Q. Okay. Anybody else? Any other law firms?**
 24 A. On the Democratic side --
 25 **Q. Okay.**

Page 214

1 A. -- I worked for -- well, I worked
 2 nonpartisan for L.A. County -- L.A. County's outside
 3 counsel, which I forget -- so it's -- L.A. County is
 4 nonpartisan body.
 5 And I worked -- oh, I worked for Fred
 6 Woocher, Woocher and Strong for the Santa Barbara --
 7 I registered a case in Santa Barbara County, Board
 8 of Supervisors. Now, again, that's nonpartisan, but
 9 if you look at the politics, Mr. Woocher was working
 10 for the Democratic side.
 11 **Q. You said you submitted a placeholder report**
 12 **in one case.**
 13 **What's a placeholder?**
 14 A. I don't know if you've done any reducing
 15 litigation. Unfortunately, after the decennial
 16 census, there's sort of a rush. These cases are
 17 very rushed because you have filing deadlines. So
 18 challenges to district plans happen very late -- and
 19 so on very, very abbreviated court schedules.
 20 So what we had done in Colorado is I'd done
 21 a very, sort of one quick look, one page thing.
 22 Here's what I'm going to look at, and with the
 23 belief that I'd be putting a supplemental.
 24 That's fairly typical in reducing
 25 litigation, where time constraints are very high, so

Page 215

1 we do one bit of analysis, and then we do
 2 supplements as time and data allow.
 3 **Q. Earlier, I asked you questions about how**
 4 **Mr. Bensen assigned the precinct to certain**
 5 **categories of invalid voters, and I think you said**
 6 **you weren't aware necessarily of how he did that.**
 7 **Do you -- what's your opinion as to the**
 8 **right precinct to apply to a vote attributed to a**
 9 **dead person?**
 10 A. Again, I don't -- I don't know if there's a
 11 right answer to that. I think the only definitive
 12 is where the state, the precinct that person voted
 13 in, but I -- I don't have a definitive answer on
 14 where that should be.
 15 **Q. And the same would be true of a scanned**
 16 **provisional ballot from an unregistered voter?**
 17 A. Correct. You do your best to allocate it.
 18 I'm sure there's some errors in allocation, where
 19 their home precinct is.
 20 **Q. And the same for a multistate voter who**
 21 **might reside actually outside of Washington?**
 22 A. Again, that's possible.
 23 **Q. Okay. And you didn't do anything in any of**
 24 **those cases to adjust for the possibility that those**
 25 **people don't live in, and aren't at all homogenous**

Page 216

1 **with the precinct where the ballot was assigned?**
 2 A. No, no. They're a relatively small number
 3 of invalid ballots. So one could do a sensitivity
 4 analysis of that -- shows if you just pulled them
 5 out, what would happen.
 6 **Q. Is there anything you were worried that I**
 7 **would ask you, that I didn't ask you?**
 8 A. No, actually. It's a complete --
 9 MR. BURMAN: Well, then we should quit.
 10 MR. AHEARNE: I'm going to make it go a
 11 little longer.
 12 THE WITNESS: Okay.
 13
 14 **FURTHER EXAMINATION**
 15 MR. AHEARNE:
 16 **Q. If I can ask you to turn to Exhibit 2,**
 17 **please, page 4.**
 18 MR. BURMAN: I'll be right back.
 19 (Mr. Burman leaves the room.)
 20 BY MR. AHEARNE:
 21 **Q. It's the first supplemental.**
 22 A. Yeah, that's the one I always miss because
 23 that's the one that's got your e-mail.
 24 What page?
 25 **Q. Page 4. If you just open to the chart**

54 (Pages 213 to 216)



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Page 217	<p>1 that's there.</p> <p>2 A. Uh-huh.</p> <p>3 Q. And if you leave that open and go to</p> <p>4 Exhibit 9, which has a similar chart.</p> <p>5 A. This? The one labeled second supplemental?</p> <p>6 Q. Yes.</p> <p>7 Looking at Exhibit 9, there's table one</p> <p>8 which says, "Estimated Distribution of Invalid</p> <p>9 Votes."</p> <p>10 Do you see that?</p> <p>11 A. Yes.</p> <p>12 (Mr. Burman enters the room.)</p> <p>13 BY MR. AHEARNE:</p> <p>14 Q. And if I understand it correctly, you did a</p> <p>15 calculation to produce the numbers that are in this</p> <p>16 table one; correct?</p> <p>17 A. Correct.</p> <p>18 Q. And would those calculations change,</p> <p>19 depending on why the invalid vote was invalid?</p> <p>20 A. Again, no. We're treating them -- the</p> <p>21 invalid votes are allocated to a precinct. So</p> <p>22 that's all that matters to us, not why, so no.</p> <p>23 Q. Okay. Then if I can ask you to turn to</p> <p>24 Exhibit 2, Table 2, "Estimated Distribution of</p> <p>25 Invalid Votes" to discuss that.</p>	Page 219	<p>1 (Respondents' Exhibits 1 through 12 were</p> <p>2 marked for identification by the court</p> <p>3 reporter and are attached hereto.)</p> <p>4 (The deposition was concluded at 1:26 p.m.)</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
Page 218	<p>1 A. Uh-huh.</p> <p>2 Q. Would the calculations in that table change,</p> <p>3 depending on why the vote was invalid?</p> <p>4 A. Again, those are broken out in that</p> <p>5 strategy, so what -- what -- the type of invalid</p> <p>6 vote is going to matter, in so far as those have</p> <p>7 different geographical districts.</p> <p>8 I broke them out only to the felons and</p> <p>9 non-felons, because as I said, I have some benchmark</p> <p>10 for how felons might have voted. I have no</p> <p>11 benchmarks for how non-felons might have voted. I</p> <p>12 wanted to separate out that analysis.</p> <p>13 The bottom line is the one that the -- and</p> <p>14 that does depend on the distribution -- not their</p> <p>15 types.</p> <p>16 Q. So your testimony or your conclusions are</p> <p>17 based on the precinct in which the invalid votes</p> <p>18 were voted, not why the invalid vote was invalid?</p> <p>19 A. Correct.</p> <p>20 MR. BURMAN: Okay. I think I finally</p> <p>21 understand.</p> <p>22 Thank you.</p> <p>23 THE WITNESS: Thank you.</p> <p>24 ///</p> <p>25 ///</p>	Page 220	<p>1 --o0o--</p> <p>2 Please be advised I have read the foregoing</p> <p>3 deposition, and I state there are:</p> <p>4 (Check one)</p> <p>5 NO CORRECTIONS</p> <p>6 CORRECTIONS ATTACHED</p> <p>7</p> <p>8</p> <p>9 JONATHAN N. KATZ</p> <p>10</p> <p>11 Date Signed</p> <p>12</p> <p>13 --o0o--</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>

55 (Pages 217 to 220)



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 9 CASE: BORDERS VS. King COUNTY
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Page 222

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Page 223

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 2
 3
 4 STATE OF CALIFORNIA)
) ss.
 5 COUNTY OF LOS ANGELES)
 6
 7 I, JONATHAN N. KATZ, having appeared for my
 8 deposition on May 5, 2005, do this date declare
 9 under penalty of perjury that I have read the
 10 foregoing deposition, I have made any corrections,
 11 additions or deletions that I was desirous of making
 12 in order to render the within transcript true and
 13 correct.
 14 IN WITNESS WHEREOF, I have hereunto
 15 subscribed my name this day of ,
 16 2005.
 17
 18
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Page 224

1 STATE OF CALIFORNIA)
) ss.
 2 COUNTY OF LOS ANGELES)
 3
 4 I, CHRISTINA KIM-CAMPOS, CSR No. 12598, a
 5 court reporter for the County of Los Angeles, State
 6 of California, do hereby certify;
 7 That prior to being examined, JONATHAN N.
 8 KATZ, the witness named in the foregoing deposition,
 9 was by me duly sworn to testify the truth, the whole
 10 truth, and nothing but the truth;
 11 That said deposition was taken before me at
 12 the time and place herein set forth, and was taken
 13 by me in shorthand and thereafter transcribed into
 14 typewriting under my direction and supervision, and
 15 I hereby certify that the said deposition is a full,
 16 true and correct transcript of my shorthand notes so
 17 taken;
 18 I further certify that I am neither counsel
 19 for nor related to any party to said action, nor in
 20 any way interested in the outcome thereof.
 21 IN WITNESS WHEREOF, I hereto subscribe my
 22 name this day of May, 2005.
 23
 24
 25 Certified Shorthand Reporter in
 and for the County of Los Angeles,

56 (Pages 221 to 224)



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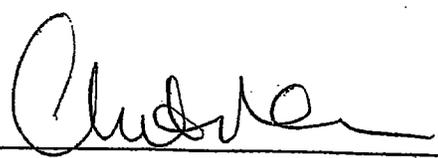
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I further certify that I am neither financially interested in the action nor a relative or employee of any attorney of any of the parties.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: MAY 11, 2005



CHRISTINA KIM-CAMPOS, CSR
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